MCP SERVER | NO CODE | CLOUD HOSTED

WCAG Contrast Checker MCP for AI Agents

Achieving WCAG Compliant Color Ratios for Web Development

WCAG Contrast Checker evaluates whether your website's color combinations meet established accessibility standards. This MCP checks contrast ratios against WCAG 2.1 and APCA models, validating specific text pairs or auditing entire brand palettes at once. It ensures that users with visual impairments can actually read what you write.

A+ Quality Score 100/100

wcag | contrast | accessibility | apca | color-palette | ui-testing

MAINTAINED BY VINKIUS CLOUD FOR AI AGENTS · JULY 2026
vinkius.com/mcp/wcag-contrast-checker

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.

WCAG Contrast Checker MCP

3 tools available
Cloud-hosted on Vinkius

Building a great-looking website means nothing if people can't use it. This MCP handles the hard part: making sure your colors contrast enough for everyone to read. You feed it color codes, and it immediately tells you if they pass WCAG 2.1 or the newer APCA standards. Need to check just one background against a foreground? Use this connector for that calculation. Want to validate an entire set of brand colors before coding anything? Audit your full palette instantly. And if a pair fails, don't sweat it; the MCP suggests compliant alternatives that minimally adjust the lightness while hitting your required AA or AAA target level.

When you connect this through Vinkius, your AI client gains instant access to these checks without needing separate browser extensions or manual calculations. It turns color compliance from a guessing game into an automated step in your design workflow.

Core Capabilities

01 — Audit entire brand palettes

The MCP validates a collection of colors against accessibility standards to ensure consistency across all elements.

02 — Calculate specific color contrast ratios

It determines the exact ratio and whether two given colors pass or fail standard accessibility checks.

03 — Suggest compliant alternatives

The MCP suggests a new background color that meets your target level (AA or AAA) by making minimal adjustments to the original hue.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/wcag-contrast-checker** — connect your AI agent in three steps.

01 Start by identifying the colors you need to check, such as text and backgrounds.

02 Your AI client sends these color codes and the desired compliance level (e.g., WCAG AA) to this MCP.

03 The tool returns a detailed report showing the exact contrast ratio, whether it passes or fails, and suggests actionable fixes if necessary.

The bottom line is you get instant, standards-compliant feedback on your color choices without writing any code or running multiple checks manually.

Built For

Anyone designing a digital product who takes accessibility seriously. If you're tired of testing colors by eye and risking non-compliance, this is for you. It helps designers, developers, and content strategists build sites that truly work for everyone.

UX Designer

Uses the MCP to test dozens of color combinations in a single session, ensuring every screen layout maintains AA compliance.

Web Developer

Integrates contrast checks directly into their build process, using the calculated ratios to confirm final CSS values before deployment.

Accessibility Consultant

Runs comprehensive audits on client brand palettes, using the tool to generate a documented compliance report for stakeholders.

What Changes When You Connect

01 Stops guesswork. Instead of guessing if your colors are readable, the MCP calculates the exact contrast ratio and tells you instantly if it passes AA or AAA standards.

02 Test palettes in bulk. Use `audit_palette` to validate an entire collection of brand colors at once, guaranteeing that every element adheres to accessibility rules.

03 Fix failing pairs easily. If a combination fails, use `find_compliant_suggestion` to get a suggested background color that meets your minimum target level with minimal visual change.

04 Saves development time. Developers can rely on the precise data from `calculate_contrast`, cutting out manual checks and tedious cross-referencing against complex WCAG documentation.

05 Builds for everyone. Compliance isn't optional; this MCP ensures that people using screen readers or with low vision can actually use your site.

Real-World Applications

A new brand guide needs to be approved

The UX Designer feeds the agent a list of five primary and secondary colors. The agent uses `audit_palette` and immediately reports which color combinations fail compliance, saving hours of manual spreadsheet work.

A banner ad has bad colors

The marketer inputs the existing red/yellow scheme for a sale banner. The agent uses `find_compliant_suggestion` and suggests a compliant background color that maintains visibility while meeting WCAG AA requirements.

A specific headline text needs adjusting

The developer wants to ensure the main H1 text contrasts enough against a dark background. They use `calculate_contrast` and find that changing the foreground color slightly fixes the issue, passing AAA standards.

Patterns to Avoid

Checking only one element at a time

✗ AVOID

A designer checks the main navigation text contrast, then moves on to the footer. They forget to check the small copyright notice or tertiary buttons.

✓ INSTEAD

Don't treat elements in isolation. Use `audit_palette` first to verify all potential color groups, ensuring your entire site structure is compliant from the start.

Ignoring WCAG standards entirely

✗ AVOID

The team simply picks colors that 'look good' on a monitor without ever referencing established contrast ratios or target levels (AA/AAA).

✓ INSTEAD

Always define your goal first. Use `calculate_contrast` to check against specific targets, like WCAG 2.1 AA Normal, rather than just relying on visual appeal.

Guessing the best fix color

✗ AVOID

A designer sees a failure and arbitrarily picks a lighter shade of gray, hoping it will pass compliance, which often fails again.

✓ INSTEAD

Rely on precision. If `calculate_contrast` fails, use `find_compliant_suggestion`. This tool intelligently adjusts the color to guarantee compliance rather than just guessing.

The Right Fit

Use this MCP if your primary concern is measurable, verifiable color accessibility and you need to enforce WCAG standards across a digital product. You should connect it when vetting brand palettes or confirming final UI elements. Don't use it if you are simply looking for aesthetic suggestions without regard for compliance; in that case, a general color picker might suffice. However, if your goal is professional publication—anything going live on the web—you need this MCP. Never rely solely on human eyes to check contrast ratios.

WCAG Contrast Checker: Fixing Color Accessibility Issues for Web Development

Building a site is usually messy at first. Designers are testing colors in Figma, developers are poking around with CSS values, and everyone is copying ratios into spreadsheets. It's painstaking work; you spend hours manually checking every text pair against the WCAG documentation, wondering if that specific gray-on-white combination will actually pass.

With this MCP, your agent handles all of that tedious math instantly. You give it a color pair, and it returns an immediate pass/fail status with precise ratios. It turns what used to take hours of cross-referencing into a single check, letting you move on to the next design problem.

WCAG Contrast Checker: Ensuring Consistent Color Compliance in UI Testing

The biggest headache is maintaining consistency. You might pass one main text block using `calculate_contrast`, but then forget to check the smaller legal disclaimers or button hovers, leading to a compliance failure somewhere unexpected.

Now you can use this MCP's tools to audit your entire color scheme with one command. It ensures that every single element—from the header to the smallest footnote—maintains the required contrast level across the whole user experience.

WCAG Contrast Checker: 3 Tools for Web Color Compliance

Use these tools to validate palettes, calculate exact ratios, or suggest compliant colors so your design passes all accessibility checks.

#	TOOL	DESCRIPTION
01	`audit_palette`	Validates whether an entire set of colors meets a specific accessibility standard.
02	`calculate_contrast`	Determines the precise contrast ratio and if two specified colors are accessible.
03	`find_compliant_suggestion`	Suggests a new background color that meets your target standard by adjusting the lightness of the current color.

See It in Action

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

U What is the WCAG 2.1 AA compliance ratio between #333333 and #EEEEEE?

Accessibility Check Report

- **Foreground:** #333333 (Dark Gray)
- **Background:** #EEEEEE (Light Gray)

STANDARD	RATIO	STATUS
WCAG 2.1 AA Normal	**6.8:1**	✅ Pass
WCAG 2.1 AAA Normal	7:1	⚠️ Fail

The ratio is strong, passing all standard requirements for normal text size.

U I need a background color that works with #FF0000 and hits AAA Normal.

Suggested Compliant Backgrounds

We're looking for a contrast ratio of 7:1 or higher.

- **Primary Suggestion:** `#FFFFFF` (Pure White)
* Ratio achieved: **21:1**
* Compliance: WCAG AAA Pass

- **Secondary Option:** `#F0F8FF` (Alice Blue)
* Ratio achieved: **14.5:1**
* Compliance: WCAG AAA Pass

U Audit my palette: #A0A0A0, #333333, and #F0F8FF for general usability.

Palette Audit Results

The collection of colors passes most standards but needs review on the text/background relationship.

- `#333333` on `#FFFFFF`: Passes (21:1).
- `#A0A0A0` on `#FFFFFF`: Fails AA Normal (Contrast is 3.2:1). **Recommendation:** Use a darker shade.
- `#F0F8FF` on `[Unknown]`: Needs pairing. Consider using it as the background for text that uses `#333333` for maximum contrast.

Frequently Asked Questions

01 **How does WCAG Contrast Checker help me meet accessibility standards?**

It gives you immediate, precise data on color ratios. Instead of guessing if two colors are readable, it calculates the exact contrast ratio and tells you if they pass specific levels like AA or AAA, making compliance straightforward.

02 **Can I use this MCP to check my entire website's color palette?**

Yes. You can run an audit on a whole set of colors using the MCP. This helps you verify that every single background and foreground combination across your site meets compliance standards before development even starts.

03 **If my text fails the test, what should I do?**

The MCP has a tool that suggests specific alternative colors for backgrounds. It adjusts the lightness of the failing color just enough to get you back over the required AA or AAA threshold.

04 **Is this better than using browser extensions for contrast checking?**

This MCP is much more powerful because it's programmatic. You aren't limited to what a single extension can check; your AI agent uses it to run comprehensive, multi-point audits and suggestions across entire design systems.

05 **Does WCAG Contrast Checker support the newest APCA standards?**

Yes. It supports both the established WCAG 2.1 rules and the newer APCA models (WCAG 3.0), giving you future-proof validation for your designs.

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 `"wcag-contrast-checker": { "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

WCAG Contrast Checker 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

Generated	July 2026
MCP Server	WCAG Contrast Checker MCP
Server ID	`019f21aa-04eb-73aa-ac17-a9b91c5c5a6d`
Platform	Vinkius Cloud for AI Agents
Endpoint	`https://edge.vinkius.com/{token}/mcp`

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