AISOC MCP

AI Security Operations Center

Panduan Lengkap Pengguna & Dokumentasi

Panduan komprehensif untuk instalasi, konfigurasi, dan penggunaan platform AISOC MCP.
Dari nol hingga mahir - semua yang Anda butuhkan untuk deploy dan operasikan AI-powered Security Operations Center Anda.

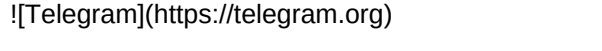
Versi: 1.0.0
Tanggal: 26 September 2025
Repository: github.com/urtir/AISOC-MCP

Teknologi: Python 3.8+ • FastMCP • Wazuh SIEM • LM Studio • Telegram Bot

■ Daftar Isi

AISOC MCP - AI Security Operations Center

AI-Powered Security Management Platform with Model Context Protocol



Daftar Isi

Pengenalan

AISOC MCP (AI Security Operations Center - Model Context Protocol) adalah platform manajemen keamanan terdepan yang mengintegrasikan **Wazuh SIEM** dengan **AI-powered analysis** menggunakan **FastMCP protocol**. Platform ini menyediakan monitoring keamanan real-time, analisis log yang cerdas, dan deteksi ancaman otomatis.

■ **Mengapa AISOC MCP?**

• ■ **AI-Native**: Built-in AI untuk analisis keamanan
• ■ **Real-time**: Monitoring dan alerting langsung
• ■ **Smart Analysis**: RAG + CAG untuk analisis kontekstual
• ■ **Multi-Interface**: Web, Telegram, dan API
• ■ **Privacy-First**: AI lokal dengan LM Studio
• ■ **Comprehensive**: 29 tools terintegrasi

Fitur Utama

■ **Core Components**

Komponen	Deskripsi	Status
FastMCP Server	AI-powered security analysis dengan 29 tools	Ready
Web Dashboard	Interactive interface dengan chat AI	Ready
Telegram Bot	Real-time alerts & Q&A capabilities	Ready
Database System	Comprehensive logging & caching	Ready
Config Manager	Centralized configuration dengan validasi	Ready

AI Capabilities

• ■ **RAG (Retrieval-Augmented Generation)**: Analisis keamanan berbasis konteks
• ■ **CAG (Cache-Augmented Generation)**: Sistem caching cerdas untuk performa optimal
• ■ **Semantic Search**: Analisis log berbasis vector dan similarity search
• ■ **LM Studio Integration**: Deployment AI model lokal untuk privasi maksimal

Security Features

• ■ **Real-time Monitoring**: Analisis security event berkelanjutan
• ■ **Automated Alerting**: Deteksi ancaman dan notifikasi cerdas
• ■ **Log Analysis**: Analisis log keamanan berbasis AI
• ■ **Report Generation**: Laporan PDF otomatis dengan insight keamanan
• ■ **Agent Management**: Monitoring agent Wazuh yang komprehensif

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Arsitektur

```
graph TB A[Wazuh SIEM] --> B[FastMCP Server] B --> C[AI Engine - LM
Studio] B --> D[Database SQLite] B --> E[Web Dashboard] B --> F[Telegram
Bot] C --> G[RAG System] C --> H[CAG Cache] E --> I[Chat Interface] E -->
J[Admin Panel] F --> K[Real-time Alerts] F --> L[PDF Reports]
```

■ **Struktur Project**

```
AISOC MCP/ ■■■ ■ src/ ■ ■■■ api/ ■ ■ ■■■ wazuh_fastmcp_server.py # ■
Core FastMCP server ■ ■ ■■■ wazuh_realtime_server.py # ■ Real-time
monitoring ■ ■■■ webapp/ ■ ■ ■■■ webapp_chatbot.py # ■ Main web app ■ ■
■■■ admin.py # ■■ Admin interface ■ ■ ■■■ templates/ # ■ HTML templates
■ ■■■ telegram/ ■ ■ ■■■ telegram_security_bot.py # ■ Bot utama ■ ■ ■■■
telegram_report_generator.py # ■ Report generator ■ ■■■ database/ # ■
Database utilities ■■■ ■■ config/ ■ ■■■ config_manager.py # ■■
Configuration manager ■ ■■■ config.json # ■ Main config ■■■ ■ data/ ■
■■■ chat_history.db # ■ Chat database ■ ■■■ wazuh_archives.db # ■ Wazuh
logs ■■■ ■ docs/ # ■ Dokumentasi lengkap ■■■ ■ tests/ # ■ Testing suite
■■■ ■ cag_cache/ # ■ AI knowledge cache
```

Prerequisites

■ **System Requirements**

• **OS**: Windows 10/11, Linux, macOS
• **Python**: 3.8 atau lebih tinggi
• **RAM**: Minimum 8GB (Recommended 16GB+)
• **Storage**: 10GB free space
• **Network**: Internet connection untuk setup awal

■ **Required Software**

Software	Versi	Deskripsi
Python	3.8+	Runtime environment
Wazuh Manager	4.x+	SIEM platform
LM Studio	Latest	Local AI inference
Git	Latest	Version control

■ **API Keys & Tokens**

• **Telegram Bot Token** (dari @BotFather)
• **Wazuh API Credentials**
• **LM Studio API Key** (jika diperlukan)

Instalasi

Step 1: Clone Repository

```
# Clone repository git clone https://github.com/urtir/AISOC-MCP.git cd
AISOC-MCP
```

Step 2: Setup Python Environment

```
# Buat virtual environment python -m venv aisoc_env # Aktivasi virtual
environment # Windows PowerShell: .\aisoc_env\Scripts\Activate.ps1 #
Windows CMD: # aisoc_env\Scripts\activate.bat
```

Step 3: Install Dependencies

```
# Upgrade pip python -m pip install --upgrade pip # Install requirements
pip install -r requirements.txt # Verify installation pip list
```

Step 4: Setup LM Studio

1. **Download & Install**: LM Studio

2. **Download Model**: Pilih model seperti `qwen2.5-1.5b` atau `llama-3.2-1b`

3. **Start Server**: Jalankan server di `http://localhost:1234`

Step 5: Setup Wazuh

```
# Install Wazuh (Linux example) curl -sO
https://packages.wazuh.com/4.x/wazuh-install.sh sudo bash
./wazuh-install.sh -a # Verify Wazuh is running curl -k -X GET
"https://localhost:55000/" -H "Authorization: Bearer $TOKEN"
```

Step 6: Database Migration

```
# Migrate database python migrate_database.py # Verify database python
tests/check_db.py
```

Konfigurasi

Step 1: Environment Variables

Buat file `.env` di root directory:

```
# LM Studio Configuration LM_STUDIO_BASE_URL=http://localhost:1234/v1
LM_STUDIO_API_KEY=lm-studio LM_STUDIO_MODEL=qwen2.5-1.5b-instruct # Wazuh
Configuration WAZUH_API_URL=https://localhost:55000
WAZUH_USERNAME=wazuh-wui WAZUH_PASSWORD=YourSecurePassword123 # Flask
```

```
Configuration FLASK_HOST=127.0.0.1 FLASK_PORT=5000
FLASK_SECRET_KEY=your-super-secret-key-here # Telegram Configuration
TELEGRAM_BOT_TOKEN=1234567890:ABCdefGhIjKlMnOpQrStUvWxYz
TELEGRAM_CHAT_ID=your-chat-id
```

Step 2: Config.json Setup

Edit `config/config.json`:

```
{ "services": { "fastmcp_server": { "enabled": true, "host": "127.0.0.1",
"port": 8000, "lm_studio_url": "http://localhost:1234/v1" }, "web_app": {
"enabled": true, "host": "127.0.0.1", "port": 5000, "debug": false },
"telegram_bot": { "enabled": true, "token": "${TELEGRAM_BOT_TOKEN}",
"admin_chat_id": "${TELEGRAM_CHAT_ID}" } }, "wazuh": { "api_url":
"${WAZUH_API_URL}", "username": "${WAZUH_USERNAME}", "password":
"${WAZUH_PASSWORD}", "verify_ssl": false } }
```

Step 3: Telegram Bot Setup

1. **Buat Bot**:

• Chat dengan [@BotFather](https://t.me/BotFather)
• Kirim `/newbot`
• Ikuti instruksi dan dapatkan token

2. **Get Chat ID**:

```
# Start bot dulu, lalu jalankan: python tests/test_telegram_alerting.py
```

3. **Test Bot**:

```
# Test telegram functionality python src/telegram/telegram_security_bot.py
```

Panduan Penggunaan

■ Menjalankan AISOC MCP

Method 1: All-in-One (Recommended)

```
# Start all services python scripts/start_all_services.py
```

Method 2: Manual Service Start

```
# Terminal 1: Start FastMCP Server python src/api/wazuh_fastmcp_server.py
# Terminal 2: Start Web App python src/webapp/webapp_chatbot.py # Terminal
3: Start Telegram Bot python src/telegram/telegram_security_bot.py #
Terminal 4: Start Real-time Monitor python
src/api/wazuh_realtime_server.py
```

■ Verifikasi Services

1. Check FastMCP Server

```
# Test FastMCP tools python tests/test_tool_definition.py
```

2. Check Web Application

• Browse ke: `http://localhost:5000`
• Login dengan default credentials
• Test chat interface

3. Check Telegram Bot

• Start chat dengan bot
• Kirim `/start`
• Test command `/help`

4. Check Database

```
# Verify database integrity python tests/check_db.py
```

Konfigurasi utama dilakukan melalui file `config/config.json`:

```
{ "lm_studio": { "base_url": "http://192.168.56.1:1234/v1", "api_key":
"lm-studio", "model": "qwen/qwen3-1.7b" }, "wazuh": { "api_url":
"https://localhost:55000", "username": "wazuh-wui", "password":
"your-password", "verify_ssl": false }, "flask": { "host": "127.0.0.1",
"port": 5000, "debug": false, "secret_key": "your-secret-key" },
"telegram": { "bot_token": "your-bot-token", "chat_id": "your-chat-id" } }
```

Detailed Configuration

Untuk konfigurasi lengkap, lihat:

• `docs/COMPLETE_VARIABLES_LIST.md` - Daftar lengkap variabel konfigurasi
• `docs/HARDCODED_CONFIG_ANALYSIS.md` - Analisis konfigurasi hardcoded

Web Interface

1. **Access Dashboard**: `http://localhost:5000`

2. **Login** dengan kredensial yang dikonfigurasi

3. **Monitor** security events di dashboard

4. **Generate Reports** melalui menu reporting

Telegram Bot

1. **Start Bot**: Jalankan `src/telegram/telegram_security_bot.py`

2. **Add Bot** ke grup Telegram Anda

3. **Subscribe** untuk notifikasi real-time

4. **Query Logs** dengan perintah natural language

API Access

FastMCP server menyediakan tools untuk:

• `check_wazuh_log` - Query dan analisis log keamanan
• `list_agents` - Daftar dan kelola agents
• `get_api_info` - Informasi API Wazuh
• Dan banyak tools lainnya...

Core Documentation

• `docs/FastMCP_Documentation.md` - Dokumentasi FastMCP lengkap
• `docs/Wazuh_API_Documentation.md` - Dokumentasi Wazuh API
• `docs/CACHE_AUGMENTED_GENERATION_CAG.md` - Implementasi CAG

System Documentation

• `docs/ALERT_SYSTEM_README.md` - Sistem alert real-time
• `docs/RAG_TO_CAG_MIGRATION.md` - Migrasi dari RAG ke CAG

Technology Stack

• **Backend**: Python 3.10+ dengan FastAPI dan Flask
• **Database**: SQLite untuk storage lokal
• **AI/ML**: LM Studio dengan local LLM models
• **Protocol**: FastMCP untuk AI tool integration
• **Frontend**: HTML5, CSS3, JavaScript dengan modern UI components
• **Integration**: Wazuh API, Telegram Bot API

System Components

1. `wazuh_fastmcp_server.py` - Core FastMCP server dengan Wazuh integration

2. `webapp_chatbot.py` - Main web application

3. `telegram_security_bot.py` - Telegram bot untuk notifikasi

4. `wazuh_realtime_server.py` - Real-time data fetching service

5. `config_manager.py` - Centralized configuration management

Database Schema

• `chat_history.db` - User chat sessions dan history
• `wazuh_archives.db` - Cached Wazuh logs untuk fast querying

Important Security Settings

1. **Change Default Passwords** - Ganti semua password default

2. **SSL/TLS Configuration** - Aktifkan SSL untuk production

3. **API Authentication** - Konfigurasi autentikasi yang kuat

4. **Network Security** - Batasi akses network sesuai kebutuhan

Security Features

• **Local AI Processing** - Semua AI processing dilakukan secara lokal
• **Encrypted Storage** - Sensitive data di-encrypt
• **Access Control** - Role-based access control
• **Audit Logging** - Comprehensive audit trails

Run Tests

```
# Run all tests python -m pytest tests/ # Run specific test python -m
pytest tests/test_wazuh_api.py # Run with coverage python -m pytest
--cov=src tests/
```

Test Components

• Unit tests untuk core functions
• Integration tests untuk API endpoints
• End-to-end tests untuk web interface

Contributing

Development Workflow

1. **Fork** repository ini

2. **Create branch** untuk feature Anda:

```
git checkout -b feature/amazing-feature
```

3. **Install development dependencies**:

```
pip install -r requirements.txt
```

4. **Make changes** dan tambahkan tests

5. **Submit pull request**

Code Quality

• Follow PEP 8 style guidelines
• Add docstrings untuk semua public functions
• Include tests untuk new features
• Update documentation sesuai kebutuhan

System Requirements

• **RAM**: Minimum 4GB, Recommended 8GB+
• **Storage**: 10GB free space untuk logs dan cache
• **CPU**: Multi-core processor recommended
• **Network**: Stable connection ke Wazuh manager

Optimization Features

• **Database Indexing** - Optimized database queries
• **Caching Layer** - CAG caching untuk AI responses
• **Async Processing** - Asynchronous operations
• **Connection Pooling** - Efficient database connections

Common Issues

1. **LM Studio Connection Error**

• Pastikan LM Studio running di URL yang benar
• Check model sudah di-load
• Verify network connectivity

2. **Wazuh API Authentication Failed**

• Verify username/password di `config/config.json`
• Check Wazuh manager accessibility
• Validate SSL configuration

3. **Database Connection Issues**

• Check database file permissions
• Run migration script: `python migrate_database.py`
• Verify SQLite installation

Debug Mode

Enable debug mode untuk troubleshooting:

```
# Edit config/config.json { "flask": { "debug": true } } # Start
application python src/webapp/webapp_chatbot.py
```


• **Wazuh Team** - Untuk SIEM platform yang powerful
• **FastMCP Community** - Untuk Model Context Protocol
• **LM Studio** - Untuk local AI inference solution
• **Python Community** - Untuk ecosystem yang luar biasa

Untuk support dan pertanyaan:

• **Issues**: [GitHub Issues](https://github.com/urtir/LMS-MCP/issues)
• **Discussions**: [GitHub Discussions](https://github.com/urtir/LMS-MCP/discussions)
• **Documentation**: Check `docs` directory
• **Repository**: [GitHub Repository](https://github.com/urtir/LMS-MCP)

Version 2.0 (Planned)

• [ ] Multi-tenant support
• [ ] Advanced AI models integration
• [ ] Cloud deployment options
• [ ] Mobile application
• [ ] Advanced analytics dashboard

Version 1.5 (In Progress)

FastMCP Tools

AISOC MCP menyediakan **29 Tools** yang terintegrasi:

Core Tools

Tool	Deskripsi	Usage
check_wazuh_log	AI-powered log analysis	High-level security analysis
get_agent_info	Detailed agent information	Agent management
get_agent_stats	Agent statistics	Performance monitoring
get_security_events	Security event analysis	Threat detection
get_critical_alerts	Critical alert identification	Priority response

Analysis Tools

Tool	Deskripsi	Usage
search_logs_semantic	Vector-based log search	Advanced search
get_hybrid_search	CAG + Semantic combined	Best results
analyze_attack_patterns	Attack pattern detection	Threat hunting
get_vulnerability_summary	Vulnerability assessment	Risk analysis
generate_security_report	Automated reporting	Documentation

Monitoring Tools

Tool	Deskripsi	Usage
get_system_health	System health status	Infrastructure monitoring
get_agent_status	Real-time agent status	Connectivity check
get_rule_statistics	Rule firing statistics	Performance tuning
get_decoder_info	Log decoder information	Log parsing
get_cdb_info	CDB list information	Configuration management

Advanced Tools

Tool	Deskripsi	Usage
execute_wql_query	Wazuh Query Language	Custom queries
get_rootcheck_scan	Rootkit detection	Security scanning
get_sca_scan	Security compliance	Compliance monitoring
get_syscollector_data	System inventory	Asset management
get_mitre_info	MITRE ATT&CK mapping	Threat classification

Database Schema

■ wazuh_archives.db

```
CREATE TABLE wazuh_logs ( id INTEGER PRIMARY KEY AUTOINCREMENT, timestamp
DATETIME NOT NULL, agent_id TEXT, agent_name TEXT, rule_id INTEGER,
rule_level INTEGER, rule_description TEXT, location TEXT, full_log TEXT,
search_text TEXT, manager TEXT, decoder_name TEXT, status TEXT DEFAULT
'active', created_at DATETIME DEFAULT CURRENT_TIMESTAMP ); -- Indexes for
performance CREATE INDEX idx_timestamp ON wazuh_logs(timestamp); CREATE
INDEX idx_agent_id ON wazuh_logs(agent_id); CREATE INDEX idx_rule_level ON
wazuh_logs(rule_level); CREATE INDEX idx_search_text ON
wazuh_logs(search_text);
```

■ chat_history.db

```
CREATE TABLE chat_history ( id INTEGER PRIMARY KEY AUTOINCREMENT,
session_id TEXT NOT NULL, user_message TEXT NOT NULL, assistant_response
TEXT NOT NULL, timestamp DATETIME DEFAULT CURRENT_TIMESTAMP, user_id TEXT,
context_data TEXT, response_time REAL, tokens_used INTEGER ); -- Indexes
for chat history CREATE INDEX idx_session_id ON chat_history(session_id);
CREATE INDEX idx_timestamp ON chat_history(timestamp); CREATE INDEX
idx_user_id ON chat_history(user_id);
```

AI Capabilities

■ RAG (Retrieval-Augmented Generation)

```
# Example: Using RAG for security analysis from src.core.rag_system import
WazuhRAG rag = WazuhRAG() result = rag.query("Analisis serangan XSS dalam
24 jam terakhir") # Output: { "analysis": "Ditemukan 15 percobaan XSS
attack...", "severity": "HIGH", "recommendations": ["Block IP sources",
"Update WAF rules"], "related_logs": [...], "confidence": 0.92 }
```

■ CAG (Cache-Augmented Generation)

```
# Example: Using CAG for performance from src.core.cag_system import
WazuhCAG cag = WazuhCAG() # First query - generated fresh result1 =
cag.query("Top 10 attacking IPs today") # Second query - retrieved from
cache (faster) result2 = cag.query("Top 10 attacking IPs today") # ■ From
cache
```

Semantic Search

```
# Example: Semantic log search from src.core.semantic_search import
SemanticLogSearch searcher = SemanticLogSearch() results =
searcher.search( query="suspicious login attempts", limit=10,
similarity_threshold=0.8 ) # Results include similarity scores and
relevant contexts for result in results: print(f"Similarity:
{result.similarity:.3f}") print(f"Log: {result.log_content}")
```

Telegram Bot

■ Getting Started

1. **Start Bot**: Kirim `/start` ke bot

2. **Help Menu**: Kirim `/help` untuk melihat semua commands

3. **Setup Alerts**: Konfigurasikan notifikasi dengan `/settings`

■ Available Commands

■ Basic Commands

Command	Deskripsi	Example
/start	Initialize bot	/start
/help	Show all commands	/help

/status	System status	/status
/settings	Configure bot	/settings

■ Query Commands

Command	Deskripsi	Example
/query	Ask security question	/query what are top threats today?
/search	Search logs	/search failed login
/agents	List agents	/agents
/alerts	Recent alerts	/alerts high

■ Report Commands

Command	Deskripsi	Example
/report	Generate PDF report	/report daily
/summary	Security summary	/summary last 24h
/stats	System statistics	/stats agents
/export	Export data	/export logs csv

■ Alert Configuration

```
# Configure alert thresholds /settings alerts - Critical: Rule level ≥ 10
- High: Rule level ≥ 7 - Medium: Rule level ≥ 4 - Custom: regex patterns #
Example alert message: ■ CRITICAL ALERT ■ Agent: web-server-01 Rule:
Multiple failed logins (5712) Level: 10 Time: 2025-09-25 14:30:15 Details:
50+ failed SSH attempts from 192.168.1.100
```

Web Dashboard

Main Features

1. Chat Interface

• **AI-Powered Q&A;**: Natural language security queries
• **Context Awareness**: Maintains conversation history
• **Multi-language**: Support untuk Bahasa Indonesia
• **Real-time**: Instant responses dengan streaming

2. Dashboard Overview

```
■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■
■■ AISOC MCP Dashboard ■
■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■
■ System Status ■ Active Alerts: 12 ■ ■ ■ Services: 4/4 ■■ Critical: 2 ■
■ ■ Agents: 25/25 ■ Events/hour: 1,247 ■
■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■
■ AI Chat Interface ■ ■ [User]: Analisis serangan terbaru ■ ■ [AI]:
```

```
Terdeteksi 3 pattern serangan dalam 1 jam ■ ■ terakhir: SQL Injection
(67%), XSS (23%), ■ ■ Command Injection (10%)... ■
■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■ ■
■ Real-time Charts ■ Recent Events ■
■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■■
```

Accessing Dashboard

```
# Start web application python src/webapp/webapp_chatbot.py # Access via
browser http://localhost:5000
```

Testing

Test Categories

1. Unit Tests

```
# Core functionality tests python tests/unit/test_config_manager.py python
tests/unit/test_database_operations.py python tests/unit/test_wazuh_api.py
python tests/unit/test_lm_studio_client.py
```

2. Integration Tests

```
# End-to-end functionality python tests/integration/test_full_workflow.py
python tests/integration/test_fastmcp_integration.py python
tests/integration/test_telegram_integration.py
```

3. AI System Tests

```
# AI capabilities testing python tests/test_rag.py # RAG system python
tests/test_cag.py # CAG system python tests/test_semantic_search.py #
Vector search python tests/test_hybrid_search.py # Combined search
```

Testing FastMCP Tools

```
# Test individual tools python tests/test_check_wazuh_log_mcp.py # Test
all 29 tools python tests/test_all_tools.py # Performance test for tools
python tests/test_tool_performance.py
```

Dokumentasi

■ Available Documentation

1. Core Documentation

Document	Description	Path
FastMCP Guide	MCP protocol implementation	docs/FastMCP_Documentation.md
Wazuh API Guide	Wazuh REST API integration	docs/Wazuh_API_Documentation.md

CAG System	Cache-Augmented Generation	docs/CACHE_AUGMENTED_GENERATION_CAG.md
Alert System	Telegram alerting mechanism	docs/ALERT_SYSTEM_README.md
Variables Guide	Complete configuration list	docs/COMPLETE_VARIABLES_LIST.md

---

Troubleshooting

■ Common Issues & Solutions

1. Service Won't Start

```
# Problem: FastMCP server fails to start # Solution: Check dependencies
and ports netstat -an | findstr :8000 python -c "import fastmcp;
print('FastMCP installed')" # Problem: LM Studio connection failed #
Solution: Verify LM Studio is running curl http://localhost:1234/v1/models
# Problem: Wazuh API authentication failed # Solution: Check credentials
and SSL curl -k -u "username:password" https://localhost:55000
```

2. Database Issues

```
# Problem: Database lock or corruption # Solution: Reset and migrate
database python tests/vacuum_database.py python migrate_database.py #
Problem: Missing tables or data # Solution: Re-initialize database python
scripts/reset_database.py
```

3. AI/ML Issues

```
# Problem: RAG system not working # Solution: Rebuild embeddings python
scripts/rebuild_embeddings.py # Problem: CAG cache issues # Solution:
Clear and rebuild cache python scripts/clear_cag_cache.py
```

Health Check Commands

```
# Complete system health check python scripts/health_check.py # Individual
service checks python scripts/check_fastmcp.py # FastMCP server python
scripts/check_webapp.py # Web application python scripts/check_telegram.py
# Telegram bot python scripts/check_database.py # Database integrity
python scripts/check_wazuh.py # Wazuh connectivity python
scripts/check_lmstudio.py # LM Studio connection
```

Contributing

Development Workflow

1. Setup Development Environment

```
# Fork repository git clone https://github.com/YourUsername/AISOC-MCP.git
cd AISOC-MCP # Create development branch git checkout -b
feature/your-feature-name # Setup development environment python -m venv
```

```
dev_env .\dev_env\Scripts\Activate.ps1 pip install -r requirements.txt pip
install -r requirements-dev.txt # Development dependencies
```

2. Testing Requirements

```
# All new features must include tests python -m pytest tests/ -v # Unit
tests python -m pytest tests/integration/ -v # Integration tests python -m
pytest --cov=src --cov-report=html # Coverage report
```

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```
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ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN
CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
```

Support & Community

■ Getting Help

- ■ **Email**: support@aisoc-mcp.com
- ■ **Discord**: [AISOC MCP Community](https://discord.gg/aisoc-mcp)
- ■ **Issues**: [GitHub Issues](https://github.com/urtir/AISOC-MCP/issues)
- ■ **Docs**: [Documentation Portal](https://docs.aisoc-mcp.com)

■ Community

- ■ **Discussions**: [GitHub Discussions](https://github.com/urtir/AISOC-MCP/discussions)
- ■ **Telegram**: [@AisocMcpCommunity](https://t.me/AisocMcpCommunity)
- ■ **Twitter**: [@AisocMcp](https://twitter.com/AisocMcp)
- ■ **YouTube**: [AISOC MCP Tutorials](https://youtube.com/AisocMcp)

Roadmap

- **Q4 2025**: Advanced ML models integration
- **Q1 2026**: Multi-tenant support
- **Q2 2026**: Cloud deployment options
- **Q3 2026**: Enterprise features
- **Q4 2026**: Mobile applications

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• **Security Community** - Continuous feedback and support

Made with ❤ by AISOC MCP Team