

# AI Copilot

## Transform Log Analysis with Natural Language AI

### What is LogZilla AI Copilot?

An AI-powered assistant that transforms how operators interact with log data. Ask questions in plain English, get expert-level analysis in seconds.

- **Natural Language Queries** – No query syntax to learn
- **Automated Reports** – Incident analysis with remediation steps
- **Deep Integration** – Direct access to LogZilla data and context
- **Flexible Deployment** – Cloud AI or on-premises with Ollama

### Key Capabilities

#### Natural Language Querying

Ask questions like you would ask a colleague:

```
"Show me all authentication failures from the last hour"
"What caused the network outage at 3 AM?"
"Which hosts are generating the most errors?"
```

#### Intelligent Analysis

- **Pattern Recognition** – Identify anomalies automatically
- **Root Cause Suggestions** – AI-assisted troubleshooting
- **Correlation Detection** – Link related events across systems
- **Baseline Comparison** – Detect deviations from normal

#### Automated Reporting

- Executive summaries with business impact
- Priority matrices with confidence levels
- Remediation playbooks with CLI commands
- MITRE ATT&CK mapping for security events

### Deployment Options

#### Cloud AI

Connect to leading AI providers with simple API key configuration:

- Anthropic
- OpenAI
- Scaleway

#### On-Premises AI (Ollama)

Full AI capabilities with zero external connectivity:

- Llama, Mistral, Mixtral
- No data leaves your network
- CMMC/FedRAMP compliant
- No per-query API costs

### What Makes It Different

- **Deep LogZilla Integration** – Direct access to events, stats, config
- **Context-Aware** – Understands your infrastructure
- **Actionable Output** – Copy-paste CLI commands, not generic advice
- **Vendor-Specific** – Knows Cisco, Palo Alto, Juniper syntax

### AI Domains

LogZilla AI Copilot provides specialized analysis across six operational domains:

|   |  |  |  |
|---|--|--|--|
| <b>SecOps</b><br>Threat detection, IOC extraction, MITRE ATT&CK mapping | <b>NetOps</b><br>Network analysis, topology impact, cascading failures | <b>InfraOps</b><br>Server health, capacity planning, resource trending | <b>AppOps</b><br>Error clustering, dependency mapping, performance |
| <b>CloudOps</b><br>Multi-cloud correlation, K8s health, cost anomalies  | <b>DevOps</b><br>CI/CD analysis, build failures, pipeline optimization | <b>Compliance</b><br>PCI, HIPAA, GDPR, SOX evidence gathering          | <b>Executive</b><br>Business impact summaries, trend dashboards    |

AI SecOps: Security Operations Analysis

User Request

"Generate a security incident report with threat intelligence, IOCs, and MITRE ATT&CK mapping."

AI-Generated Threat Intel

| Source IP       | Country | Threat      | Action   |
|-----------------|---------|-------------|----------|
| 45.142.xxx.xxx  | Russia  | Brute Force | Blocked  |
| 185.220.xxx.xxx | Germany | Port Scan   | Blocked  |
| 23.94.xxx.xxx   | US      | DNS Amp     | Rate Ltd |

MITRE ATT&CK Mapping

| Technique | Tactic            | Evidence            |
|-----------|-------------------|---------------------|
| T1110.001 | Credential Access | 12,453 SSH failures |
| T1498.002 | Impact            | DNS amplification   |
| T1046     | Discovery         | Port scanning       |
| T1071.004 | C2                | Suspicious DNS      |

AI-Generated Report

| Finding                   | Severity | Events  |
|---------------------------|----------|---------|
| DNS Amplification Attacks | Critical | 847     |
| Failed SSH Authentication | High     | 12,453  |
| Firewall Deny Events      | Medium   | 156,892 |
| Certificate Failures      | Medium   | 2,341   |

Automated Remediation

```
# Cisco ASA - Block attacker
access-list OUTSIDE_IN deny ip host 45.142.xxx.xxx any

# Palo Alto - Create EDL block
set address "Threat-Actor-1" ip-netmask 45.142.xxx.xxx/32

# Fortinet - Block and log
config firewall address
  edit "blocked-attacker"
    set subnet 45.142.xxx.xxx/32
```

AI NetOps: Network Operations Analysis

User Request

"Analyze network operations events from the last 2 hours, compare to baseline, identify anomalies, and provide remediation steps."

AI-Generated Priority Matrix

| Priority | Issue                                 | Confidence |
|----------|---------------------------------------|------------|
| P1       | PKI Certificate Failure (20+ devices) | 95%        |
| P1       | AD Connector DNS Failure              | 90%        |
| P2       | Wireless Auth Failures (92K events)   | 80%        |
| P2       | DHCP Error Storm                      | 85%        |

Anomaly Detection

| Metric          | Current | Baseline | Delta  |
|-----------------|---------|----------|--------|
| Total Events    | 5.06M   | 3.90M    | +29.6% |
| Critical Events | 273     | 231      | +18.2% |
| Avg/5min        | 221K    | 163K     | +36.3% |

AI-Generated Remediation

```
# Verify CA Server Status
ping <CA_SERVER_IP>
show crypto pki trustpoints
show crypto pki certificates sdn-network-infra-iwan

# Manual Certificate Renewal
conf t
crypto pki authenticate sdn-network-infra-iwan
crypto pki enroll sdn-network-infra-iwan
```

Topology Impact Analysis

| Device      | Role         | Downstream Impact |
|-------------|--------------|-------------------|
| core-sw-01  | Distribution | 847 endpoints     |
| wlc-primary | Wireless     | 2,341 clients     |
| fw-dmz-01   | Perimeter    | All external      |

AI InfraOps: Infrastructure Operations Analysis

User Request

"Analyze infrastructure health, identify capacity issues, and provide remediation for any critical problems."

Server Health Summary

| Category         | Healthy | Warning | Critical |
|------------------|---------|---------|----------|
| Physical Servers | 142     | 8       | 2        |
| Virtual Machines | 1,247   | 34      | 5        |
| Storage Arrays   | 12      | 1       | 0        |
| Backup Systems   | 8       | 2       | 1        |

Critical Issues Identified

| Server        | Issue             | Action                |
|---------------|-------------------|-----------------------|
| db-prod-03    | Disk 95% full     | Expand /var/lib/mysql |
| esxi-host-07  | Memory overcommit | Migrate VMs           |
| backup-srv-01 | Job failures      | Check tape library    |

Resource Trending

| Resource         | Current  | 7-Day Avg | Trend      |
|------------------|----------|-----------|------------|
| CPU (cluster)    | 67%      | 54%       | Increasing |
| Memory (cluster) | 78%      | 72%       | Stable     |
| Storage (SAN)    | 71%      | 68%       | Increasing |
| Network I/O      | 2.4 Gbps | 1.8 Gbps  | Spike      |

Automated Remediation

```
# Linux - Disk space analysis
df -h /var/lib/mysql
du -sh /var/lib/mysql/* | sort -hr | head -20

# VMware ESXi - Host diagnostics
esxcli system health status get
esxcli hardware memory get
```

AI AppOps: Application Operations Analysis

User Request

"Analyze application errors across all services, identify root causes, and suggest fixes."

Error Summary by Service

| Service         | Errors | Rate | Top Error     |
|-----------------|--------|------|---------------|
| payment-api     | 1,247  | 2.3% | DB timeout    |
| user-auth       | 892    | 1.8% | Token expired |
| inventory-svc   | 456    | 0.9% | Cache miss    |
| order-processor | 234    | 0.5% | Queue full    |

Root Cause Correlation

| Symptom           | Root Cause                   | Conf. |
|-------------------|------------------------------|-------|
| Checkout timeouts | DB connection pool exhausted | 92%   |
| Auth failures     | Redis cache eviction         | 85%   |
| Slow search       | ES index fragmentation       | 78%   |

Performance Analysis

| Endpoint        | Avg   | P95   | Errors |
|-----------------|-------|-------|--------|
| /api/checkout   | 2.4s  | 8.7s  | 3.2%   |
| /api/search     | 180ms | 450ms | 0.1%   |
| /api/auth/login | 340ms | 890ms | 1.8%   |
| /api/inventory  | 95ms  | 210ms | 0.4%   |

Automated Remediation

```
# Database connection pool
SHOW PROCESSLIST;
SET GLOBAL max_connections = 500;

# Redis cache diagnostics
redis-cli INFO memory
redis-cli INFO stats | grep evicted
```

AI CloudOps: Multi-Cloud Operations Analysis

User Request

"Analyze cloud security posture across all accounts, check Kubernetes health, and identify cost anomalies."

Multi-Cloud Security Posture

| Cloud            | Crit | High | Med | Compliant |
|------------------|------|------|-----|-----------|
| AWS (3 accounts) | 2    | 8    | 23  | 89%       |
| Azure (2 subs)   | 1    | 5    | 12  | 92%       |
| GCP (1 project)  | 0    | 3    | 8   | 95%       |

Kubernetes Cluster Health

| Cluster       | Nodes | Pods | Failed | Pending |
|---------------|-------|------|--------|---------|
| prod-eks-east | 24    | 847  | 3      | 2       |
| prod-aks-west | 18    | 623  | 1      | 0       |
| dev-gke       | 8     | 234  | 12     | 5       |

Cost Anomalies Detected

| Resource       | Account    | Daily | Anomaly      |
|----------------|------------|-------|--------------|
| EC2 i3.4xlarge | prod-aws   | \$892 | +340%        |
| Azure SQL      | prod-azure | \$456 | Idle 72h     |
| GCS Bucket     | dev-gcp    | \$234 | Egress spike |

Automated Remediation

```
# AWS - Investigate SG change
aws cloudtrail lookup-events \
  --lookup-attributes AttributeKey=EventName,\
  AttributeValue=AuthorizeSecurityGroupIngress

# Kubernetes - Debug CrashLoopBackOff
kubectl describe pod <name> -n <ns>
kubectl logs <name> --previous
```

AI DevOps: CI/CD Pipeline Analysis

User Request

"Analyze CI/CD pipeline failures from the last 24 hours, identify patterns, and suggest optimizations."

Build Failure Matrix

| Priority | Pipeline    | Failure Type          | Count |
|----------|-------------|-----------------------|-------|
| CRIT     | main-deploy | Integration test fail | 23    |
| HIGH     | api-build   | Dependency resolution | 18    |
| MED      | frontend-ci | Lint errors           | 31    |
| LOW      | docs-build  | Asset compilation     | 17    |

Root Cause Analysis

| Pipeline    | Root Cause                             |
|-------------|--|
| main-deploy | Test "user-auth-flow" race condition   |
| api-build   | npm registry timeout (09:00-11:00 UTC) |
| frontend-ci | ESLint v9 introduced new rules         |
| docs-build  | Node heap size insufficient            |

Optimization Opportunities

| Optimization            | Time Saved |
|-------------------------|------------|
| Cache npm dependencies  | -4m 12s    |
| Parallelize test suites | -2m 45s    |
| Skip unchanged modules  | -1m 30s    |

AI-Generated Fixes

```
# Fix flaky test with explicit waits (Playwright)
await page.waitForSelector('[data-testid="auth-complete"]');

# Add npm registry mirror in .npmrc
registry=https://registry.npmjs.org/

# Increase Node heap for large builds
export NODE_OPTIONS="--max-old-space-size=4096"
```

## Getting Started

### Setup Steps

1. Navigate to **Settings > AI Copilot**
2. Set **AI Enabled** to "On"
3. Select **Model Type** (OpenAI, Anthropic, Ollama)
4. Enter **API Key** (not required for Ollama)
5. Click **Save** – access via Copilot menu link

### Example Queries to Try

```
"Show me authentication failures from the last hour"
"What caused the network outage at 3 AM?"
"Generate a PCI compliance report for Q4"
"Analyze Kubernetes pod failures in production"
"Which CI/CD pipelines are failing most often?"
```

### Technical Specifications

|                      |                                     |
|----------------------|-------------------------------------|
| Min LogZilla Version | v6.36+                              |
| AI Providers         | OpenAI, Anthropic, Ollama, Scaleway |
| Max Context Window   | Per model/provider                  |
| Authentication       | Inherits LogZilla RBAC              |
| Data Residency       | Cloud or On-Prem (your choice)      |

### Air-Gapped Deployment

For classified or isolated environments:

- Ollama runs entirely on-premises
- No external network connectivity required
- Supports Llama, Mistral, Mixtral models
- CMMC/FedRAMP compliant architecture
- Full AI capability without cloud dependency

## Supported Log Sources

LogZilla AI Copilot analyzes logs from any syslog-compatible source. App Store integrations include:

### Security

Palo Alto, Fortigate, Cisco ASA/Firepower,  
Check Point, Zeek, Snort

### Cloud

AWS CloudTrail/CloudWatch, Azure Monitor,  
GCP Logging, Kubernetes

### Network

Cisco IOS/Nexus/WLC/Meraki, Juniper,  
Infoblox, Ubiquiti

### Applications

Apache, Nginx, MySQL, PostgreSQL, Redis,  
Elasticsearch

### Infrastructure

VMware vCenter/ESXi, Linux, Windows,  
Nimble, QNAP

### DevOps

Jenkins, GitLab, GitHub Actions, Docker,  
containerd

## Why LogZilla AI Copilot?

### No Query Language

Ask in plain English. No SPL,  
KQL, or Lucene to learn.

### Vendor-Specific

Get CLI commands for your  
actual equipment, not generic  
advice.

### Works Air-Gapped

Full capability in classified  
environments with Ollama.

### Context-Aware

Understands your  
infrastructure, not just generic  
patterns.

Contact: [sales@logzilla.net](mailto:sales@logzilla.net) | [www.logzilla.net](http://www.logzilla.net)

AI-generated content should be verified before implementation. LogZilla Copilot continually improves through regular updates.