

Event Types Reference

Version: 3.1.0

Purpose: Canonical list of all event types for logging, analytics, and policy auditing

Format: JSON (structured logging)

Log Format Standards

JSON Structure

All events MUST follow this base structure:

```
{
  "event_type": "EVENT_NAME",
  "timestamp": "2026-01-25T12:34:56.789Z",
  "severity": "INFO",
  "correlation_id": "corr_abc123",
  "data": {
    // Event-specific fields
  }
}
```

Timestamp Format

- **Format:** ISO 8601 with milliseconds
- **Timezone:** Always UTC (suffix `Z`)
- **Example:** `2026-01-25T12:34:56.789Z`

Severity Levels

Level	Code	Usage
DEBUG	10	Detailed diagnostic information
INFO	20	Normal operational events
WARNING	30	Unusual but handled situations
ERROR	40	Errors requiring attention
CRITICAL	50	System-threatening failures

Correlation ID Format

- **Format:** `corr_{timestamp_ms}_{random6}`
- **Example:** `corr_1706198400123_x7y8z9`
- **Purpose:** Links related events across a signal's lifecycle

Signal Events

SIGNAL_DETECTED

Emitted when a whale wallet activity is detected and a signal is created.

Field	Type	Required	Description
signal_id	string	✓	Unique signal identifier
wallet_address	string	✓	Whale wallet address (base58)
token_address	string	✓	Token contract address (base58)
token_symbol	string	✓	Token ticker symbol
action	string	✓	BUY or SELL
amount_usd	number	✓	Trade amount in USD
price_usd	number	✓	Token price at detection
wallet_tier	string	✓	S/A/B/C
wallet_confidence	number	✓	0.0-1.0
asset_class	string	✓	meme_coin_low_cap/mid_cap/large_cap
source_version	string	✓	v2/v25/v3
detection_latency_ms	number	○	Time from on-chain to detection
cluster_id	string	○	Associated cluster if applicable

Severity: INFO

When Emitted: Upon detection of qualifying whale transaction via Helius webhook or polling.

Example:

```
{
  "event_type": "SIGNAL_DETECTED",
  "timestamp": "2026-01-25T12:34:56.789Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "wallet_address": "7xKLm9...",
    "token_address": "EPjFWdd...",
    "token_symbol": "BONK",
    "action": "BUY",
    "amount_usd": 5000.00,
    "price_usd": 0.00002341,
    "wallet_tier": "S",
    "wallet_confidence": 0.87,
    "asset_class": "meme_coin_low_cap",
    "source_version": "v3",
    "detection_latency_ms": 450,
    "cluster_id": "cluster_7xKL..."
  }
}
```

SIGNAL_EXPIRED

Emitted when a signal exceeds maximum freshness window without processing.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
wallet_address	string	✓	Source wallet address
token_address	string	✓	Token address
age_seconds	number	✓	Signal age at expiration
max_freshness_seconds	number	✓	Configured max freshness
asset_class	string	✓	Asset class of token

Severity: WARNING

When Emitted: When signal processor finds signal exceeds freshness window.

Example:

```
{
  "event_type": "SIGNAL_EXPIRED",
  "timestamp": "2026-01-25T12:35:30.000Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "wallet_address": "7xKLm9...",
    "token_address": "EPjFWdd...",
    "age_seconds": 35,
    "max_freshness_seconds": 30,
    "asset_class": "meme_coin_low_cap"
  }
}
```

SIGNAL_SKIPPED_ENTROPY

Emitted when Ghost Mode randomly skips a valid signal for pattern obfuscation.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
wallet_address	string	✓	Source wallet address
token_address	string	✓	Token address
skip_probability	number	✓	Configured skip probability
random_value	number	✓	Random value that triggered skip
confidence	number	✓	Signal confidence score

Severity: INFO

When Emitted: When EntropyInjector decides to skip a signal.

Example:

```
{
  "event_type": "SIGNAL_SKIPPED_ENTROPY",
  "timestamp": "2026-01-25T12:34:57.100Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "wallet_address": "7xKLm9...",
    "token_address": "EPjFWdd...",
    "skip_probability": 0.10,
    "random_value": 0.07,
    "confidence": 0.82
  }
}
```

Veto Events

VETO_KILL_SWITCH

Emitted when signal is rejected due to active kill switch.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
kill_switch_type	string	✓	FULL/GRAFH
trigger_reason	string	✓	Original trigger reason
activated_at	string	✓	ISO 8601 activation time

Severity: WARNING

When Emitted: During veto check when kill switch is active.

Example:

```
{
  "event_type": "VETO_KILL_SWITCH",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "kill_switch_type": "FULL",
    "trigger_reason": "CONSECUTIVE_LOSSES",
    "activated_at": "2026-01-25T10:00:00.000Z"
  }
}
```

VETO_CAPITAL_PRESERVATION

Emitted when signal is rejected due to Capital Preservation Mode.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
current_drawdown_pct	number	✓	Current drawdown percentage
mode_activated_at	string	✓	ISO 8601 activation time
capital_sol	number	✓	Current capital in SOL
peak_capital_sol	number	✓	Peak capital in SOL

Severity: WARNING

When Emitted: During veto check when Capital Preservation Mode is active.

Example:

```
{
  "event_type": "VETO_CAPITAL_PRESERVATION",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "current_drawdown_pct": 18.5,
    "mode_activated_at": "2026-01-25T08:00:00.000Z",
    "capital_sol": 8.15,
    "peak_capital_sol": 10.00
  }
}
```

VETO_SIGNAL_STALE

Emitted when signal is rejected due to exceeding freshness window.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
signal_age_seconds	number	✓	Age of signal in seconds
max_freshness_seconds	number	✓	Maximum allowed freshness
asset_class	string	✓	Asset class
token_address	string	✓	Token address

Severity: INFO

When Emitted: During freshness gate check.

Example:

```
{
  "event_type": "VETO_SIGNAL_STALE",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "signal_age_seconds": 45,
    "max_freshness_seconds": 30,
    "asset_class": "meme_coin_low_cap",
    "token_address": "EPjFWdd..."
  }
}
```

VETO_TOKEN_AGE

Emitted when signal is rejected due to token being too new.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
token_age_minutes	number	✓	Token age in minutes
min_age_minutes	number	✓	Required minimum age
asset_class	string	✓	Asset class

Severity: INFO

When Emitted: During token age gate check.

Example:

```
{
  "event_type": "VETO_TOKEN_AGE",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "NewToken...",
    "token_age_minutes": 8,
    "min_age_minutes": 10,
    "asset_class": "meme_coin_low_cap"
  }
}
```

VETO_SPREAD

Emitted when signal is rejected due to excessive bid-ask spread.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
spread_pct	number	✓	Observed spread percentage
max_spread_pct	number	✓	Maximum allowed spread (3%)
bid_price	number	○	Best bid price
ask_price	number	○	Best ask price

Severity: INFO

When Emitted: During spread gate check.

Example:

```
{
  "event_type": "VETO_SPREAD",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "EPjFWdd...",
    "spread_pct": 4.5,
    "max_spread_pct": 3.0,
    "bid_price": 0.00002200,
    "ask_price": 0.00002310
  }
}
```

VETO_LIQUIDITY

Emitted when signal is rejected due to insufficient liquidity.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
liquidity_usd	number	✓	Available liquidity in USD
min_liquidity_usd	number	✓	Required minimum liquidity
position_size_usd	number	✓	Intended position size

Severity: INFO

When Emitted: During liquidity gate check.

Example:

```
{
  "event_type": "VETO_LIQUIDITY",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "EPjFWdd...",
    "liquidity_usd": 15000,
    "min_liquidity_usd": 25000,
    "position_size_usd": 500
  }
}
```

VETO_TAX

Emitted when signal is rejected due to excessive token tax.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
buy_tax_pct	number	✓	Buy tax percentage
sell_tax_pct	number	✓	Sell tax percentage
total_tax_pct	number	✓	Combined tax percentage
max_tax_pct	number	✓	Maximum allowed (10%)

Severity: INFO

When Emitted: During tax gate check.

Example:

```
{
  "event_type": "VETO_TAX",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "TaxToken...",
    "buy_tax_pct": 5.0,
    "sell_tax_pct": 8.0,
    "total_tax_pct": 13.0,
    "max_tax_pct": 10.0
  }
}
```

VETO_COOLDOWN

Emitted when signal is rejected due to active cooldown.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
cooldown_type	string	✓	WALLET/TOKEN/ CLUSTER/GLOBAL
cooldown_target	string	✓	Address or identifier
cool-down_remaining_seconds	number	✓	Seconds until cool-down ends
cooldown_started_at	string	✓	ISO 8601 cooldown start

Severity: INFO

When Emitted: During cooldown/saturation gate check.

Example:

```
{
  "event_type": "VETO_COOLDOWN",
  "timestamp": "2026-01-25T12:34:56.800Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "cooldown_type": "WALLET",
    "cooldown_target": "7xKLM9...",
    "cooldown_remaining_seconds": 1800,
    "cooldown_started_at": "2026-01-25T12:04:56.000Z"
  }
}
```

VETO_SIMULATION

Emitted when signal is rejected due to failed simulation.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
simulation_result	string	✓	HONEYPOD/ HIGH_TAX/LIQUID- ITY_TRAP/ERROR
simulated_buy_tax_pct	number	○	Detected buy tax
simulated_sell_tax_pct	number	○	Detected sell tax
error_message	string	○	Error details if applicable

Severity: WARNING

When Emitted: After simulation fails safety checks.

Example:

```
{
  "event_type": "VETO_SIMULATION",
  "timestamp": "2026-01-25T12:34:57.500Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "ScamToken...",
    "simulation_result": "HONEYPOD",
    "simulated_buy_tax_pct": 0.5,
    "simulated_sell_tax_pct": 99.0
  }
}
```

Simulation Events

SIM_STARTED

Emitted when transaction simulation begins.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
simulation_type	string	✓	BUY/SELL/BOTH
amount_sol	number	✓	Amount being simulated

Severity: DEBUG

When Emitted: At start of simulation process.

Example:

```
{
  "event_type": "SIM_STARTED",
  "timestamp": "2026-01-25T12:34:57.000Z",
  "severity": "DEBUG",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "EPjFWdd...",
    "simulation_type": "BOTH",
    "amount_sol": 0.1
  }
}
```

SIM_PASS

Emitted when simulation passes all safety checks.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
buy_tax_pct	number	✓	Detected buy tax
sell_tax_pct	number	✓	Detected sell tax
total_tax_pct	number	✓	Combined tax
expected_output_tokens	number	✓	Expected tokens from buy
simulation_latency_ms	number	✓	Simulation duration

Severity: INFO

When Emitted: After successful simulation completion.

Example:

```
{
  "event_type": "SIM_PASS",
  "timestamp": "2026-01-25T12:34:57.450Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "EPjFWdd...",
    "buy_tax_pct": 0.5,
    "sell_tax_pct": 0.5,
    "total_tax_pct": 1.0,
    "expected_output_tokens": 4250000,
    "simulation_latency_ms": 450
  }
}
```

SIM_BLOCK_HONEYHOT

Emitted when simulation detects honeypot characteristics.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
sell_reverted	boolean	✓	Whether sell simulation reverted
sell_tax_pct	number	○	Detected sell tax if not reverted
revert_reason	string	○	Revert error message

Severity: WARNING

When Emitted: When sell simulation reverts or shows >90% tax.

Example:

```
{
  "event_type": "SIM_BLOCK_HONEYPOD",
  "timestamp": "2026-01-25T12:34:57.450Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "HoneyPot...",
    "sell_reverted": true,
    "revert_reason": "Transfer failed: insufficient balance"
  }
}
```

SIM_BLOCK_TAX

Emitted when simulation detects excessive tax.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
buy_tax_pct	number	✓	Detected buy tax
sell_tax_pct	number	✓	Detected sell tax
total_tax_pct	number	✓	Combined tax
threshold_pct	number	✓	Tax threshold (10%)

Severity: WARNING

When Emitted: When combined tax exceeds threshold.

Example:

```
{
  "event_type": "SIM_BLOCK_TAX",
  "timestamp": "2026-01-25T12:34:57.450Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "HighTax...",
    "buy_tax_pct": 5.0,
    "sell_tax_pct": 8.0,
    "total_tax_pct": 13.0,
    "threshold_pct": 10.0
  }
}
```

SIM_BLOCK_LIQUIDITY

Emitted when simulation detects liquidity issues.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
available_liquidity_usd	number	✓	Detected liquidity
required_liquidity_usd	number	✓	Minimum required
price_impact_pct	number	○	Estimated price impact

Severity: WARNING

When Emitted: When liquidity is insufficient for position size.

Example:

```
{
  "event_type": "SIM_BLOCK_LIQUIDITY",
  "timestamp": "2026-01-25T12:34:57.450Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "LowLiq...",
    "available_liquidity_usd": 5000,
    "required_liquidity_usd": 25000,
    "price_impact_pct": 15.5
  }
}
```

SIM_ERROR

Emitted when simulation encounters an error.

Field	Type	Required	Description
signal_id	string	✓	Signal identifier
token_address	string	✓	Token address
error_type	string	✓	RPC_ERROR/ TIMEOUT/INVAL- ID_RESPONSE
error_message	string	✓	Error details
retry_count	number	✓	Number of retries at- tempted

Severity: ERROR

When Emitted: When simulation fails due to technical error.

Example:

```
{
  "event_type": "SIM_ERROR",
  "timestamp": "2026-01-25T12:34:58.000Z",
  "severity": "ERROR",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "EPjFWdd...",
    "error_type": "RPC_ERROR",
    "error_message": "Node behind by 15 slots",
    "retry_count": 3
  }
}
```

Trade Events

TRADE_INTENT_CREATED

Emitted when a trade intent passes all veto gates and is ready for execution.

Field	Type	Required	Description
trade_id	string	✓	Unique trade identifier
signal_id	string	✓	Source signal identifier
token_address	string	✓	Token address
token_symbol	string	✓	Token ticker
side	string	✓	BUY/SELL
amount_sol	number	✓	Position size in SOL
execution_wallet	string	✓	Wallet to execute trade
expected_slippage_bps	number	✓	Expected slippage
confidence	number	✓	Final confidence score
paper	boolean	✓	Paper trade flag

Severity: INFO

When Emitted: After signal passes all gates, before execution.

Example:

```
{  
  "event_type": "TRADE_INTENT_CREATED",  
  "timestamp": "2026-01-25T12:34:58.000Z",  
  "severity": "INFO",  
  "correlation_id": "corr_1706198400123_x7y8z9",  
  "data": {  
    "trade_id": "trade_1706198498_e5f6g7h8",  
    "signal_id": "sig_1706198400_a1b2c3d4",  
    "token_address": "EPjFWdd...",  
    "token_symbol": "BONK",  
    "side": "BUY",  
    "amount_sol": 0.05,  
    "execution_wallet": "ExecWal...",  
    "expected_slippage_bps": 150,  
    "confidence": 0.78,  
    "paper": false  
  }  
}
```

TRADE_EXECUTED

Emitted when a trade is successfully executed on-chain.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
signal_id	string	✓	Source signal identifier
tx_signature	string	✓	Transaction signature (base58)
token_address	string	✓	Token address
side	string	✓	BUY/SELL
amount_sol	number	✓	SOL amount
amount_tokens	number	✓	Tokens received/sent
price_usd	number	✓	Execution price
actual_slippage_bps	number	✓	Actual slippage
gas_lamports	number	✓	Transaction fee
execution_latency_ms	number	✓	Time from intent to confirm
paper	boolean	✓	Paper trade flag
execution_wallet	string	○	Wallet used
block_slot	number	○	Block slot of execution

Severity: INFO

When Emitted: After transaction confirmation.

Example:

```
{
  "event_type": "TRADE_EXECUTED",
  "timestamp": "2026-01-25T12:34:59.500Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "signal_id": "sig_1706198400_a1b2c3d4",
    "tx_signature": "5KtPn7S...",
    "token_address": "EPjFWdd...",
    "side": "BUY",
    "amount_sol": 0.05,
    "amount_tokens": 2134500,
    "price_usd": 0.00002345,
    "actual_slippage_bps": 120,
    "gas_lamports": 5000,
    "execution_latency_ms": 1500,
    "paper": false,
    "execution_wallet": "ExecWal...",
    "block_slot": 245678901
  }
}
```

TRADE FAILED

Emitted when a trade execution fails.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
signal_id	string	✓	Source signal identifier
token_address	string	✓	Token address
side	string	✓	BUY/SELL
failure_reason	string	✓	Reason for failure
error_code	string	○	RPC error code
tx_signature	string	○	Failed tx signature if available
retry_count	number	✓	Retries attempted
will_retry	boolean	✓	Whether retry is planned

Severity: ERROR

When Emitted: After trade execution fails.

Example:

```
{
  "event_type": "TRADE_FAILED",
  "timestamp": "2026-01-25T12:35:00.000Z",
  "severity": "ERROR",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "signal_id": "sig_1706198400_a1b2c3d4",
    "token_address": "EPjFWdd...",
    "side": "BUY",
    "failure_reason": "SLIPPAGE_EXCEEDED",
    "error_code": "0x1771",
    "retry_count": 2,
    "will_retry": false
  }
}
```

TRADE_PARTIAL_FILL

Emitted when a trade is only partially filled.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
signal_id	string	✓	Source signal identifier
tx_signature	string	✓	Transaction signature
token_address	string	✓	Token address
intended_amount_sol	number	✓	Intended position size
filled_amount_sol	number	✓	Actually filled amount
fill_percentage	number	✓	Percentage filled
reason	string	○	Reason for partial fill

Severity: WARNING

When Emitted: When trade executes but not fully filled.

Example:

```
{
  "event_type": "TRADE_PARTIAL_FILL",
  "timestamp": "2026-01-25T12:34:59.500Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "signal_id": "sig_1706198400_a1b2c3d4",
    "tx_signature": "5KtPn7S...",
    "token_address": "EPjFWdd...",
    "intended_amount_sol": 0.05,
    "filled_amount_sol": 0.032,
    "fill_percentage": 64.0,
    "reason": "Insufficient liquidity at target price"
  }
}
```

Exit Events

EXIT_PANIC

Emitted when position is closed due to panic exit threshold.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
token_address	string	✓	Token address
entry_price_usd	number	✓	Entry price
exit_price_usd	number	✓	Exit price
loss_pct	number	✓	Loss percentage
panic_threshold_pct	number	✓	Configured threshold (15%)
pnl_sol	number	✓	Realized P&L in SOL
hold_duration_seconds	number	✓	Time position was held
tx_signature	string	✓	Exit transaction signature

Severity: WARNING

When Emitted: When position hits panic stop loss.

Example:

```
{
  "event_type": "EXIT_PANIC",
  "timestamp": "2026-01-25T13:00:00.000Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "token_address": "EPjFWdd...",
    "entry_price_usd": 0.00002345,
    "exit_price_usd": 0.00001993,
    "loss_pct": 15.0,
    "panic_threshold_pct": 15.0,
    "pnl_sol": -0.0075,
    "hold_duration_seconds": 1502,
    "tx_signature": "ExitTx..."
  }
}
```

EXIT_TIME_STOP

Emitted when position is closed due to time-based exit.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
token_address	string	✓	Token address
entry_price_usd	number	✓	Entry price
exit_price_usd	number	✓	Exit price
pnl_pct	number	✓	P&L percentage
pnl_sol	number	✓	Realized P&L in SOL
hold_duration_minutes	number	✓	Time position was held
max_hold_minutes	number	✓	Configured max hold time
tx_signature	string	✓	Exit transaction signature

Severity: INFO

When Emitted: When position reaches maximum hold time.

Example:

```
{
  "event_type": "EXIT_TIME_STOP",
  "timestamp": "2026-01-25T16:34:56.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "token_address": "EPjFWdd...",
    "entry_price_usd": 0.00002345,
    "exit_price_usd": 0.00002567,
    "pnl_pct": 9.5,
    "pnl_sol": 0.00475,
    "hold_duration_minutes": 240,
    "max_hold_minutes": 240,
    "tx_signature": "ExitTx..."
  }
}
```

EXIT_WHALE_INACTIVITY

Emitted when position is closed due to whale wallet inactivity.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
token_address	string	✓	Token address
whale_wallet	string	✓	Tracked whale wallet
whale_last_activity	string	✓	ISO 8601 last activity
inactivity_minutes	number	✓	Minutes since last activity
inactivity_threshold_minutes	number	✓	Configured threshold
pnl_pct	number	✓	P&L percentage
pnl_sol	number	✓	Realized P&L in SOL
tx_signature	string	✓	Exit transaction signature

Severity: INFO

When Emitted: When tracked whale becomes inactive.

Example:

```
{
  "event_type": "EXIT_WHALE_INACTIVITY",
  "timestamp": "2026-01-25T14:34:56.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "token_address": "EPjFWdd...",
    "whale_wallet": "7xKLm9...",
    "whale_last_activity": "2026-01-25T13:04:56.000Z",
    "inactivity_minutes": 90,
    "inactivity_threshold_minutes": 60,
    "pnl_pct": 5.2,
    "pnl_sol": 0.0026,
    "tx_signature": "ExitTx..."
  }
}
```

EXIT_TRAILING_STOP

Emitted when position is closed due to trailing stop trigger.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
token_address	string	✓	Token address
entry_price_usd	number	✓	Entry price
peak_price_usd	number	✓	Highest price reached
exit_price_usd	number	✓	Exit price
trailing_stop_pct	number	✓	Trailing stop percentage
drawdown_from_peak_pct	number	✓	Drawdown from peak
pnl_pct	number	✓	P&L percentage
pnl_sol	number	✓	Realized P&L in SOL
tx_signature	string	✓	Exit transaction signature

Severity: INFO

When Emitted: When trailing stop is triggered.

Example:

```
{
  "event_type": "EXIT_TRAILING_STOP",
  "timestamp": "2026-01-25T14:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "token_address": "EPjFWdd...",
    "entry_price_usd": 0.00002345,
    "peak_price_usd": 0.00003500,
    "exit_price_usd": 0.00002975,
    "trailing_stop_pct": 15.0,
    "drawdown_from_peak_pct": 15.0,
    "pnl_pct": 26.9,
    "pnl_sol": 0.01345,
    "tx_signature": "ExitTx..."
  }
}
```

EXIT_MANUAL

Emitted when position is manually closed by operator.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
token_address	string	✓	Token address
entry_price_usd	number	✓	Entry price
exit_price_usd	number	✓	Exit price
pnl_pct	number	✓	P&L percentage
pnl_sol	number	✓	Realized P&L in SOL
operator_reason	string	✓	Reason provided by operator
tx_signature	string	✓	Exit transaction signature

Severity: INFO

When Emitted: When operator manually closes position.

Example:

```
{
  "event_type": "EXIT_MANUAL",
  "timestamp": "2026-01-25T15:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "token_address": "EPjFWdd...",
    "entry_price_usd": 0.00002345,
    "exit_price_usd": 0.00002800,
    "pnl_pct": 19.4,
    "pnl_sol": 0.0097,
    "operator_reason": "Taking profits before news event",
    "tx_signature": "ExitTx..."
  }
}
```

EXIT_KILL_SWITCH

Emitted when position is forcefully closed due to kill switch activation.

Field	Type	Required	Description
trade_id	string	✓	Trade identifier
token_address	string	✓	Token address
kill_switch_type	string	✓	FULL/GRAFH
kill_switch_trigger	string	✓	Trigger reason
entry_price_usd	number	✓	Entry price
exit_price_usd	number	✓	Exit price
pnl_pct	number	✓	P&L percentage
pnl_sol	number	✓	Realized P&L in SOL
tx_signature	string	✓	Exit transaction signature

Severity: CRITICAL

When Emitted: When kill switch forces position closure.

Example:

```
{
  "event_type": "EXIT_KILL_SWITCH",
  "timestamp": "2026-01-25T12:35:00.000Z",
  "severity": "CRITICAL",
  "correlation_id": "corr_1706198400123_x7y8z9",
  "data": {
    "trade_id": "trade_1706198498_e5f6g7h8",
    "token_address": "EPjFWdd...",
    "kill_switch_type": "FULL",
    "kill_switch_trigger": "CONSECUTIVE_LOSSES",
    "entry_price_usd": 0.00002345,
    "exit_price_usd": 0.00002100,
    "pnl_pct": -10.4,
    "pnl_sol": -0.0052,
    "tx_signature": "ExitTx..."
  }
}
```

Risk Events

KILL_SWITCH_TRIGGERED

Emitted when kill switch is activated.

Field	Type	Required	Description
kill_switch_type	string	✓	FULL/GRAPH
trigger	string	✓	Trigger reason
details	object	✓	Trigger-specific details
open_positions_count	number	✓	Positions to be closed
capital_sol	number	✓	Current capital

Severity: CRITICAL

Trigger Reasons:

- CONSECUTIVE_LOSSES : 3+ consecutive losses
- MOTHER_EXPLOSION : Mother wallet >30% down
- WIN_RATE_COLLAPSE : Win rate <40% over 20 trades
- RAPID_DRAWDOWN : >20% drawdown in 24h
- GRAPH_POISONING : Suspected graph poisoning
- MANUAL : Operator triggered

When Emitted: When any kill switch trigger condition is met.

Example:

```
{
  "event_type": "KILL_SWITCH_TRIGGERED",
  "timestamp": "2026-01-25T12:35:00.000Z",
  "severity": "CRITICAL",
  "correlation_id": "corr_1706198500000_ks001",
  "data": {
    "kill_switch_type": "FULL",
    "trigger": "CONSECUTIVE_LOSSES",
    "details": {
      "consecutive_loss_count": 3,
      "total_loss_sol": 0.025,
      "losing_trades": [
        "trade_1706198000_abcl",
        "trade_1706198200_def2",
        "trade_1706198400_ghi3"
      ]
    },
    "open_positions_count": 2,
    "capital_sol": 4.85
  }
}
```

KILL_SWITCH_CLEARED

Emitted when kill switch is deactivated.

Field	Type	Required	Description
kill_switch_type	string	✓	FULL/GRAPH
activated_at	string	✓	ISO 8601 activation time
cleared_at	string	✓	ISO 8601 clear time
duration_minutes	number	✓	Duration of kill switch
cleared_by	string	✓	MANUAL/AUTO/TIMEOUT
resolution_notes	string	○	Operator notes

Severity: INFO

When Emitted: When kill switch is cleared.

Example:

```
{
  "event_type": "KILL_SWITCH_CLEARED",
  "timestamp": "2026-01-25T14:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198500000_ks001",
  "data": {
    "kill_switch_type": "FULL",
    "activated_at": "2026-01-25T12:35:00.000Z",
    "cleared_at": "2026-01-25T14:00:00.000Z",
    "duration_minutes": 85,
    "cleared_by": "MANUAL",
    "resolution_notes": "Reviewed losing trades, identified setup error"
  }
}
```

CAPITAL_PRESERVATION_ACTIVATED

Emitted when Capital Preservation Mode is activated.

Field	Type	Required	Description
drawdown_pct	number	✓	Current drawdown percentage
threshold_pct	number	✓	Activation threshold (15%)
capital_sol	number	✓	Current capital
peak_capital_sol	number	✓	Peak capital
positions_affected	number	✓	Open positions count

Severity: WARNING

When Emitted: When drawdown exceeds 15%.

Example:

```
{
  "event_type": "CAPITAL_PRESERVATION_ACTIVATED",
  "timestamp": "2026-01-25T12:35:00.000Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198500000_cp001",
  "data": {
    "drawdown_pct": 15.5,
    "threshold_pct": 15.0,
    "capital_sol": 8.45,
    "peak_capital_sol": 10.00,
    "positions_affected": 1
  }
}
```

CAPITAL_PRESERVATION_CLEARED

Emitted when Capital Preservation Mode is cleared.

Field	Type	Required	Description
activated_at	string	✓	ISO 8601 activation time
cleared_at	string	✓	ISO 8601 clear time
duration_hours	number	✓	Duration in hours
capital_sol_at_activation	number	✓	Capital when activated
capital_sol_at_clear	number	✓	Capital when cleared
cleared_by	string	✓	MANUAL only (requires approval)
approver_notes	string	✓	Required approval notes

Severity: INFO

When Emitted: When Capital Preservation Mode is manually cleared.

Example:

```
{
  "event_type": "CAPITAL_PRESERVATION_CLEARED",
  "timestamp": "2026-01-25T20:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198500000_cp001",
  "data": {
    "activated_at": "2026-01-25T12:35:00.000Z",
    "cleared_at": "2026-01-25T20:00:00.000Z",
    "duration_hours": 7.4,
    "capital_sol_at_activation": 8.45,
    "capital_sol_at_clear": 8.45,
    "cleared_by": "MANUAL",
    "approver_notes": "Reviewed position history, no systemic issues found"
  }
}
```

DRAWDOWN_WARNING

Emitted at drawdown warning thresholds (10%, 15%).

Field	Type	Required	Description
warning_level	string	✓	LEVEL_10/LEVEL_15
drawdown_pct	number	✓	Current drawdown percentage
capital_sol	number	✓	Current capital
peak_capital_sol	number	✓	Peak capital
loss_since_peak_sol	number	✓	SOL lost since peak
open_positions	array	✓	List of open position IDs

Severity: WARNING

When Emitted: When drawdown crosses 10% or 15% threshold.

Example:

```
{
  "event_type": "DRAWDOWN_WARNING",
  "timestamp": "2026-01-25T12:30:00.000Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400000_dw001",
  "data": {
    "warning_level": "LEVEL_10",
    "drawdown_pct": 10.2,
    "capital_sol": 8.98,
    "peak_capital_sol": 10.00,
    "loss_since_peak_sol": 1.02,
    "open_positions": ["trade_1706198300_xyz1"]
  }
}
```

Graph Events

GRAPH_DISABLED_OBSERVATION_MODE

Emitted when graph-based signals are disabled due to suspected poisoning.

Field	Type	Required	Description
trigger_reason	string	✓	Reason for observation mode
mother_wallets_24h	number	✓	New mother wallets in 24h
threshold	number	✓	Trigger threshold (10)
affected_clusters	array	✓	List of suspicious cluster IDs
v3_signals_blocked	boolean	✓	Whether V3 signals blocked

Severity: WARNING

When Emitted: When >10 new mother wallets discovered in 24h.

Example:

```
{
  "event_type": "GRAPH_DISABLED_OBSERVATION_MODE",
  "timestamp": "2026-01-25T12:35:00.000Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198500000_gr001",
  "data": {
    "trigger_reason": "EXCESSIVE_MOTHER_DISCOVERY",
    "mother_wallets_24h": 12,
    "threshold": 10,
    "affected_clusters": ["cluster_7xKL...", "cluster_9mNP..."],
    "v3_signals_blocked": true
  }
}
```

GRAPH_RESUMED

Emitted when graph operations resume after observation mode.

Field	Type	Required	Description
observation_started_at	string	✓	ISO 8601 start time
observation_ended_at	string	✓	ISO 8601 end time
duration_hours	number	✓	Duration in hours
resumed_by	string	✓	MANUAL/AUTO
review_notes	string	○	Operator review notes

Severity: INFO

When Emitted: When graph observation mode is cleared.

Example:

```
{
  "event_type": "GRAPH_RESUMED",
  "timestamp": "2026-01-26T12:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706198500000_gr001",
  "data": {
    "observation_started_at": "2026-01-25T12:35:00.000Z",
    "observation_ended_at": "2026-01-26T12:00:00.000Z",
    "duration_hours": 23.4,
    "resumed_by": "MANUAL",
    "review_notes": "False positive, new legitimate whale cluster"
  }
}
```

MOTHER_WALLET_DISCOVERED

Emitted when a new mother wallet is identified.

Field	Type	Required	Description
mother_address	string	✓	Mother wallet address
cluster_id	string	✓	Assigned cluster ID
children_count	number	✓	Number of funded children
winning_children	number	✓	Children with positive PnL
total_funding_sol	number	✓	Total SOL funded to children
trust_score	number	✓	Calculated trust score
discovery_method	string	✓	HARVESTER/MANUAL/BACKFILL

Severity: INFO

When Emitted: When God View identifies new mother wallet.

Example:

```
{
  "event_type": "MOTHER_WALLET_DISCOVERED",
  "timestamp": "2026-01-25T12:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706195200000_mw001",
  "data": {
    "mother_address": "MotherWal...",
    "cluster_id": "cluster_MotherWal...",
    "children_count": 15,
    "winning_children": 12,
    "total_funding_sol": 25.5,
    "trust_score": 0.85,
    "discovery_method": "HARVESTER"
  }
}
```

MOTHER_WALLET_DECAYED

Emitted when mother wallet confidence decays below threshold.

Field	Type	Required	Description
mother_address	string	✓	Mother wallet address
cluster_id	string	✓	Cluster ID
previous_confidence	number	✓	Confidence before decay
new_confidence	number	✓	Confidence after decay
days_inactive	number	✓	Days since last activity
demoted	boolean	✓	Whether demoted from tracking

Severity: INFO

When Emitted: During daily confidence decay processing.

Example:

```
{
  "event_type": "MOTHER_WALLET_DECAYED",
  "timestamp": "2026-01-25T00:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706140800000_decay",
  "data": {
    "mother_address": "OldMother...",
    "cluster_id": "cluster_OldMother...",
    "previous_confidence": 0.55,
    "new_confidence": 0.48,
    "days_inactive": 45,
    "demoted": true
  }
}
```

CLUSTER_DETECTED

Emitted when a new wallet cluster is identified.

Field	Type	Required	Description
cluster_id	string	✓	Cluster identifier
mother_address	string	✓	Source/mother wallet
member_count	number	✓	Number of cluster members
total_pnl_sol	number	✓	Aggregate cluster PnL
win_rate_pct	number	✓	Cluster win rate
detection_method	string	✓	FUNDING_TRACE/TIMING/BEHAVIOR

Severity: INFO

When Emitted: When cluster analysis identifies new cluster.

Example:

```
{
  "event_type": "CLUSTER_DETECTED",
  "timestamp": "2026-01-25T12:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706195200000_c1001",
  "data": {
    "cluster_id": "cluster_7xKL...",
    "mother_address": "7xKLm9...",
    "member_count": 8,
    "total_pnl_sol": 15.3,
    "win_rate_pct": 72.5,
    "detection_method": "FUNDING_TRACE"
  }
}
```

GRAPH_POISONING_SUSPECTED

Emitted when potential graph poisoning is detected.

Field	Type	Required	Description
suspicion_type	string	✓	FAKE_MOTHER/ WASH_TRADING/ SYBIL_ATTACK
evidence	object	✓	Evidence details
affected_clusters	array	✓	Potentially affected cluster IDs
confidence_level	string	✓	LOW/MEDIUM/HIGH
recommended_action	string	✓	Suggested response

Severity: WARNING

When Emitted: When anti-poisoning heuristics trigger.

Example:

```
{
  "event_type": "GRAPH_POISONING_SUSPECTED",
  "timestamp": "2026-01-25T12:35:00.000Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198500000_poison",
  "data": {
    "suspicion_type": "FAKE_MOTHER",
    "evidence": {
      "new_mothers_24h": 12,
      "avg_children_per_mother": 3.2,
      "funding_pattern": "UNIFORM_AMOUNTS",
      "activity_timing": "SYNCHRONIZED"
    },
    "affected_clusters": ["cluster_Fake1...", "cluster_Fake2..."],
    "confidence_level": "HIGH",
    "recommended_action": "ENABLE_OBSERVATION_MODE"
  }
}
```

System Events

SYSTEM_STARTUP

Emitted when the system starts.

Field	Type	Required	Description
version	string	✓	System version
phase	number	✓	Current trading phase (0-4)
mode	string	✓	NORMAL/CAPITAL_PRESERVATION/KILL_SWITCH
capital_sol	number	✓	Starting capital
components_loaded	array	✓	List of loaded components
config_hash	string	✓	Hash of settings.yaml

Severity: INFO

When Emitted: At system initialization.

Example:

```
{
  "event_type": "SYSTEM_STARTUP",
  "timestamp": "2026-01-25T08:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706176800000_sys",
  "data": {
    "version": "3.1.0",
    "phase": 2,
    "mode": "NORMAL",
    "capital_sol": 5.0,
    "components_loaded": [
      "database",
      "wallet_tracker",
      "signal_processor",
      "simulator",
      "risk_manager",
      "entropy_injector"
    ],
    "config_hash": "sha256:abc123..."
  }
}
```

SYSTEM_SHUTDOWN

Emitted when the system shuts down.

Field	Type	Required	Description
shutdown_type	string	✓	GRACEFUL/FORCED/ERROR
open_positions_count	number	✓	Open positions at shutdown
positions_closed	boolean	✓	Whether positions were closed
capital_sol	number	✓	Final capital
uptime_hours	number	✓	System uptime
reason	string	○	Shutdown reason

Severity: INFO (GRACEFUL) / ERROR (FORCED/ERROR)

When Emitted: At system shutdown.

Example:

```
{
  "event_type": "SYSTEM_SHUTDOWN",
  "timestamp": "2026-01-25T23:59:59.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706233199000_sys",
  "data": {
    "shutdown_type": "GRACEFUL",
    "open_positions_count": 0,
    "positions_closed": true,
    "capital_sol": 5.25,
    "uptime_hours": 15.99,
    "reason": "Daily maintenance window"
  }
}
```

API_ERROR

Emitted when an external API call fails.

Field	Type	Required	Description
api_name	string	✓	HELIUS/BIRDEYE/JUPITER/SOLSCAN
endpoint	string	✓	API endpoint called
error_type	string	✓	TIMEOUT/ HTTP_ERROR/ PARSE_ERROR
http_status	number	○	HTTP status code
error_message	string	✓	Error details
retry_count	number	✓	Retries attempted
will_retry	boolean	✓	Whether retry is planned

Severity: ERROR

When Emitted: When API call fails.

Example:

```
{
  "event_type": "API_ERROR",
  "timestamp": "2026-01-25T12:34:56.000Z",
  "severity": "ERROR",
  "correlation_id": "corr_1706198400000_api",
  "data": {
    "api_name": "HELIUS",
    "endpoint": "/v0/addresses/{address}/transactions",
    "error_type": "HTTP_ERROR",
    "http_status": 503,
    "error_message": "Service temporarily unavailable",
    "retry_count": 2,
    "will_retry": true
  }
}
```

API_RATE_LIMITED

Emitted when API rate limit is hit.

Field	Type	Required	Description
api_name	string	✓	API that was rate limited
endpoint	string	✓	Endpoint that triggered limit
limit_type	string	✓	MINUTE/HOUR/DAY
limit_value	number	✓	Rate limit value
reset_at	string	✓	ISO 8601 reset time
requests_made	number	✓	Requests made in window

Severity: WARNING

When Emitted: When 429 response received.

Example:

```
{
  "event_type": "API_RATE_LIMITED",
  "timestamp": "2026-01-25T12:34:56.000Z",
  "severity": "WARNING",
  "correlation_id": "corr_1706198400000_rate",
  "data": {
    "api_name": "BIRDEYE",
    "endpoint": "/public/tokenlist",
    "limit_type": "MINUTE",
    "limit_value": 100,
    "reset_at": "2026-01-25T12:35:00.000Z",
    "requests_made": 102
  }
}
```

WALLET_ROTATED

Emitted when execution wallet is rotated.

Field	Type	Required	Description
old_wallet	string	✓	Previous wallet address
new_wallet	string	✓	New wallet address
rotation_reason	string	✓	SCHEDULED/ COMPROMISED/ENTROPY
old_wallet_balance_sol	number	✓	Balance of old wallet
new_wallet_balance_sol	number	✓	Balance of new wallet

Severity: INFO (SCHEDULED/ENTROPY) / WARNING (COMPROMISED)

When Emitted: When execution wallet changes.

Example:

```
{
  "event_type": "WALLET_ROTATED",
  "timestamp": "2026-01-25T12:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706195200000_rot",
  "data": {
    "old_wallet": "OldExec...",
    "new_wallet": "NewExec...",
    "rotation_reason": "ENTROPY",
    "old_wallet_balance_sol": 0.5,
    "new_wallet_balance_sol": 0.5
  }
}
```

PHASE_TRANSITION

Emitted when system transitions between trading phases.

Field	Type	Required	Description
from_phase	number	✓	Previous phase (0-4)
to_phase	number	✓	New phase (0-4)
transition_reason	string	✓	Why transition occurred
metrics_at_transition	object	✓	Key metrics snapshot
auto_transited	boolean	✓	Whether automatic
operator_approval	string	○	Approver if manual

Severity: INFO

When Emitted: When phase requirements are met and transition occurs.

Example:

```
{
  "event_type": "PHASE_TRANSITION",
  "timestamp": "2026-01-25T12:00:00.000Z",
  "severity": "INFO",
  "correlation_id": "corr_1706195200000_phase",
  "data": {
    "from_phase": 1,
    "to_phase": 2,
    "transition_reason": "METRICS_ACHIEVED",
    "metrics_at_transition": {
      "signals_tracked": 150,
      "paper_win_rate_pct": 62.5,
      "capital_sol": 5.0,
      "simulator_accuracy_pct": 96.2
    },
    "auto_transited": false,
    "operator_approval": "Manual review completed"
  }
}
```

Event Summary Table

Event Type	Category	Severity	Key Fields
SIGNAL_DETECTED	Signal	INFO	signal_id, wallet, token, confidence
SIGNAL_EXPIRED	Signal	WARNING	signal_id, age_seconds
SIGNAL_SKIPPED_ENTROPY	Signal	INFO	signal_id, skip_probability
VETO_KILL_SWITCH	Veto	WARNING	signal_id, kill_switch_type
VETO_CAPITAL_PRESERVATION	Veto	WARNING	signal_id, drawdown_pct
VETO_SIGNAL_STALE	Veto	INFO	signal_id, signal_age_seconds
VETO_TOKEN_AGE	Veto	INFO	signal_id, token_age_minutes
VETO_SPREAD	Veto	INFO	signal_id, spread_pct
VETO_LIQUIDITY	Veto	INFO	signal_id, liquidity_usd
VETO_TAX	Veto	INFO	signal_id, total_tax_pct
VETO_COOLDOWN	Veto	INFO	signal_id, cooldown_type
VETO_SIMULATION	Veto	WARNING	signal_id, simulation_result
SIM_STARTED	Simulation	DEBUG	signal_id, simulation_type
SIM_PASS	Simulation	INFO	signal_id, total_tax_pct
SIM_BLOCK_HONEYBOT	Simulation	WARNING	signal_id, sell_reverted
SIM_BLOCK_TAX	Simulation	WARNING	signal_id, total_tax_pct

Event Type	Category	Severity	Key Fields
SIM_BLOCK_LIQUIDITY	Simulation	WARNING	signal_id, available_liquidity
SIM_ERROR	Simulation	ERROR	signal_id, error_type
TRADE_INTENT_CREATED	Trade	INFO	trade_id, signal_id, amount_sol
TRADE_EXECUTED	Trade	INFO	trade_id, tx_signature
TRADE_FAILED	Trade	ERROR	trade_id, failure_reason
TRADE_PARTIAL_FILL	Trade	WARNING	trade_id, fill_percentage
EXIT_PANIC	Exit	WARNING	trade_id, loss_pct
EXIT_TIME_STOP	Exit	INFO	trade_id, hold_duration
EXIT_WHALE_INACTIVITY	Exit	INFO	trade_id, inactivity_minutes
EXIT_TRAILING_STOP	Exit	INFO	trade_id, drawdown_from_peak
EXIT_MANUAL	Exit	INFO	trade_id, operator_reason
EXIT_KILL_SWITCH	Exit	CRITICAL	trade_id, kill_switch_trigger
KILL_SWITCH_TRIGGERED	Risk	CRITICAL	trigger, open_positions
KILL_SWITCH_CLEARED	Risk	INFO	duration_minutes, cleared_by
CAPITAL_PRESERVATION_ACTIVATED	Risk	WARNING	drawdown_pct, capital_sol
CAPITAL_PRESERVATION_CLEARED	Risk	INFO	duration_hours, approver_notes

Event Type	Category	Severity	Key Fields
DRAW-DOWN_WARNING	Risk	WARNING	warning_level, draw-down_pct
GRAPH_DISABLED_OBSERVATION_MODE	Graph	WARNING	trigger_reason, mother_wallets_24h
GRAPH_RESUMED	Graph	INFO	duration_hours, resumed_by
MOTHER_WALLET_DISCOVERED	Graph	INFO	mother_address, children_count
MOTHER_WALLET_DECAYED	Graph	INFO	mother_address, new_confidence
CLUSTER_DETECTED	Graph	INFO	cluster_id, member_count
GRAPH_POISONING_SUSPECTED	Graph	WARNING	suspicion_type, confidence_level
SYSTEM_STARTUP	System	INFO	version, phase, capital_sol
SYSTEM_SHUTDOWN	System	INFO/ERROR	shutdown_type, up-time_hours
API_ERROR	System	ERROR	api_name, error_type
API_RATE_LIMITED	System	WARNING	api_name, reset_at
WALLET_ROTATED	System	INFO/WARNING	new_wallet, rotation_reason
PHASE_TRANSITION	System	INFO	from_phase, to_phase

Implementation Notes

Logging Library

Recommended: `loguru` with JSON serialization

```

from loguru import logger
import sys

logger.remove()
logger.add(
    sys.stdout,
    format="{message}",
    serialize=True, # JSON output
    level="INFO"
)
logger.add(
    "logs/whale_hunter.log",
    format="{message}",
    serialize=True,
    rotation="100 MB",
    retention="30 days",
    level="DEBUG"
)

```

Event Emission Helper

```

import uuid
from datetime import datetime, timezone

def emit_event(event_type: str, severity: str, data: dict, correlation_id: str = None):
    """
    Emit a structured event.
    """
    event = {
        "event_type": event_type,
        "timestamp": datetime.now(timezone.utc).isoformat(timespec='milliseconds').replace('+00:00', 'Z'),
        "severity": severity,
        "correlation_id": correlation_id or f"corr_{int(datetime.now().timestamp() * 1000)}_{uuid.uuid4().hex[:6]}",
        "data": data
    }
    logger.log(severity, event)
    return event

```

Retention Policy

Log Type	Retention	Storage
DEBUG	7 days	Local only
INFO	30 days	Local + backup
WARNING	90 days	Local + backup
ERROR/CRITICAL	1 year	Local + backup + archive

Changelog

Version	Date	Changes
3.1.0	2026-01-25	Initial event specification