

# AsterDex Live Trading API Integration

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**Status:**  **LIVE & OPERATIONAL**

**Date:** December 18, 2025

**Account:** Real trading account with API credentials configured

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## Integration Overview

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The AI Agentic Trading System is now connected to **AsterDex** **perpetuals exchange** with real API credentials, enabling autonomous trading with 5 specialized AI agents managed by a CEO super agent.

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## API Credentials Status

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### Configured Credentials

```
ASTERDEX_API_KEY=e30671427d...7253342115
ASTERDEX_SECRET_KEY=36f41496bd...faa3a2f900
```

**Storage Location:** `/home/ubuntu/smart_money_tracker/app/.env`

### API Endpoint

- **Base URL:** `https://fapi.asterdex.com`
  - **API Type:** Binance-compatible futures API
  - **Authentication:** HMAC SHA256 signature
  - **Protocol:** REST + WebSocket
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## ✓ API Integration Test Results

### Test Suite Executed

Endpoint	Type	Status	Response
/fapi/v1/time	Public	✓ Success	Server time: 1766066625397
/fapi/v1/ex-changeInfo	Public	✓ Success	Exchange metadata retrieved
/fapi/v1/ticker/ price	Public	✓ Success	BTC: \$88,981.10
/fapi/v2/account	Signed	✓ Success	Account accessible
/fapi/v2/position-Risk	Signed	✓ Success	No open positions
/fapi/v1/openOrders	Signed	✓ Success	No open orders

### Account Status

```
{
  "feeTier": 0,
  "canTrade": true,
  "canDeposit": true,
  "canWithdraw": true,
  "totalWalletBalance": "0.00000000",
  "totalMarginBalance": "0.00000000",
  "availableBalance": "0.00000000"
}
```

#### Key Findings:

- ✓ Trading enabled
- ✓ Deposit/withdrawal enabled
- ✓ No positions open
- ⚠ **Zero balance** - Requires funding before live trading

## 🤖 AI Agent Configuration

The system deploys 5 specialized trading agents:

Agent Portfolio

Agent Name	Strategy	AI Model	Capital %	Risk Level	Leverage
TrendMaster Alpha	Trend Following	Gemini	25%	Medium	Up to 10x
Momentum Hunter	Momentum	Grok	20%	High	Up to 20x
Mean Reversion Pro	Mean Reversion	Gemini	20%	Medium	Up to 10x
Lightning Scalper	Scalping	Grok	15%	Low	Up to 5x
Arbitrage Scanner	Arbitrage	Gemini	20%	Low	Up to 5x

CEO Super Agent

- **Role:** Risk management & strategic oversight
- **Functions:**
  - Approve/reject agent trading decisions
  - Modify leverage and position sizes
  - Pause underperforming agents
  - Rebalance capital allocation based on performance
  - Monitor overall portfolio risk

 Trading System Architecture

Decision Flow

1. Market **Data** → AI Agents analyze independently
2. Agents propose trades → CEO Agent reviews
3. CEO applies risk **controls** → Approves/rejects/modifies
4. Approved trades → Execute via AsterDex API
5. **Positions** tracked → Real-time PnL calculation
6. Performance monitoring → Capital rebalancing

Risk Controls

- **Per-Agent Leverage Limits:**
  - Low risk: Max 5x
  - Medium risk: Max 10x
  - High risk: Max 20x
- **Position Size Limits:**

- Max 30% of agent capital per trade
  - Max 2 concurrent positions per agent
  - **Stop-Loss Requirements:**
    - Automatic stop-loss at 5% loss per position
    - Portfolio-wide stop at 15% drawdown
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## Technical Implementation

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### Core Files

1. **AsterDex Client** ( `/lib/ai-agents/asterdex-client.ts` )
  - API authentication with HMAC SHA256
  - Order placement and management
  - Position tracking
  - Account balance retrieval
  - Market data fetching
2. **Trading Agents** ( `/lib/ai-agents/trading-agents.ts` )
  - Individual agent execution logic
  - Risk control implementation
  - Position management
  - Trade signal generation
3. **CEO Agent** ( `/lib/ai-agents/ceo-agent.ts` )
  - Strategic decision evaluation
  - Portfolio-level risk assessment
  - Capital rebalancing
  - Agent performance tracking
4. **Agent Manager** ( `/lib/ai-agents/agent-manager.ts` )
  - Session lifecycle management
  - Agent coordination
  - Real-time status tracking
5. **LLM Service** ( `/lib/ai-agents/llm-service.ts` )
  - Gemini API integration
  - Grok API integration
  - Decision prompts for each strategy

### API Routes

- **Session Management:** `/api/agentic/session`
  - POST: Create new trading session
  - GET: Retrieve session status
  - PUT: Pause/resume/stop session
- **Agent Management:** `/api/agentic/agents`
  - GET: List all agents with stats

- PUT: Update agent status
- **Market Data:** `/api/agentic/market`
- GET: Fetch market prices, account info, positions
- **CEO Decisions:** `/api/agentic/ceo-decisions`
- GET: Retrieve CEO decision history

## Dashboard UI

- **Page:** `/dash-agentic`
  - **Components:**
    - Session controls (create, pause, resume, stop)
    - Agent performance cards
    - CEO oversight panel
    - Live market overview
    - Real-time position tracking
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## Getting Started

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### Prerequisites

1. API credentials configured in `.env`
2. **Fund AsterDex account** (currently \$0 balance)
3. AI models configured (Gemini + Grok)
4. Dashboard deployed at `/dash-agentic`

### Starting a Trading Session

1. **Navigate to Dashboard:**
    - `https://defidashtacker.com/dash-agentic`
  2. **Create Session:**
    - Click "Create Session"
    - System initializes with \$100K default capital (or actual balance)
    - 5 agents activate automatically
    - CEO agent begins oversight
  3. **Monitor Performance:**
    - Auto-refresh every 15 seconds
    - View agent PnL and trade history
    - Track CEO decisions
    - Monitor open positions
  4. **Control Session:**
    - Pause: Halts all trading, maintains positions
    - Resume: Resumes agent activity
    - Stop: Closes all positions, ends session
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## Important Notes


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### Account Funding Required

The AsterDex account currently has **\$0 balance**. You must deposit funds before live trading can begin:

1. Log in to AsterDex: <https://asterdex.com>
2. Navigate to "Wallet" → "Deposit"
3. Transfer USDT or other supported assets
4. Confirm deposit confirmation
5. Return to dashboard and create session

### Risk Disclaimer

 **CAUTION:** This is a **live trading system** with real funds at risk. The AI agents operate autonomously based on market conditions and their programmed strategies. Key risks include:

- Market volatility and rapid losses
- Leverage amplifying both gains and losses
- AI decision-making may not align with human judgment
- Technical failures or API connectivity issues
- Exchange-specific risks (downtime, liquidity)

**Recommendation:** Start with small capital allocation to test system behavior before scaling up.

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## Performance Tracking

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### Metrics Available

- **Per-Agent:**
  - Total PnL (USD & %)
  - Win rate
  - Average trade duration
  - Open positions count
  - Capital utilization
- **Portfolio-Wide:**
  - Total PnL across all agents
  - Capital allocation
  - Drawdown tracking
  - CEO decision history






### Data Retention

- Session data stored in PostgreSQL
  - Trade history persisted indefinitely
  - Performance analytics available via dashboard
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## Next Steps

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### Immediate Actions

1.  API credentials configured
2.  System tested and operational
3.  **PENDING:** Fund AsterDex account
4.  Create first trading session
5.  Monitor initial agent performance

### Future Enhancements

- WebSocket integration for real-time price feeds
  - Advanced chart analysis integration
  - Email/Telegram alerts for major events
  - Backtesting module for strategy validation
  - Machine learning performance optimization
  - Multi-exchange support
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## Troubleshooting

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### Common Issues

**Issue:** "API signature invalid"

- **Cause:** Incorrect timestamp or signature generation
- **Fix:** Verify system time synchronization, check secret key

**Issue:** "Insufficient margin"

- **Cause:** Account balance too low for trade
- **Fix:** Deposit more funds or reduce position sizes

**Issue:** "Trading not allowed"

- **Cause:** Account restrictions or API permissions
- **Fix:** Verify account status on AsterDex, check API key permissions

**Issue:** "Agent not executing trades"


- **Cause:** Session paused, insufficient balance, or CEO rejection
  - **Fix:** Check session status, review CEO decision log
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## Test Results Log

### Test Execution: December 18, 2025

 Testing AsterDex API [Integration](#)


```
=====
API Key: e30671427d...7253342115
Secret Key: 36f41496bd...faa3a2f900
=====
```

 Starting API Tests...

 Testing: Server Time

✓ Success (200)

Response: {"serverTime": 1766066625397}

 Testing: Exchange Info


✓ Success (200)

Response: Exchange metadata with rate limits retrieved

 Testing: Ticker Price


✓ Success (200)

Response: {"symbol": "BTCUSDT", "price": "88981.1"}

 Testing: Account Information


✓ Success (200)

Response: canTrade: true, totalWalletBalance: "0.00000000"

 Testing: Position Information

✓ Success (200)

Response: [] (no open positions)

 Testing: Open Orders

✓ Success (200)

Response: [] (no open orders)

```
=====
✨ Test Suite Complete - All Tests Passed
=====
```


## Additional Resources

- **AsterDex Documentation:** <https://docs.asterdex.com>
- **Binance Futures API Docs:** <https://binance-docs.github.io/apidocs/futures/en/>
- **Dashboard Access:** <https://defidashtracker.com/dash-agentic>
- **Test Script:** `/home/ubuntu/smart_money_tracker/test-asterdex-api.ts`

## ✓ Integration Checklist

- [x] API credentials configured
- [x] Environment variables set
- [x] AsterDex client implemented

- [x] Trading agents configured
  - [x] CEO agent operational
  - [x] Dashboard UI created
  - [x] API endpoints tested
  - [x] Signature authentication verified
  - [x] Account access confirmed
  - [ ] **Account funded** (REQUIRED for live trading)
  - [ ] First trading session created
  - [ ] Performance monitoring validated
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 **System Status:** Ready for live trading upon account funding

 **Last Updated:** December 18, 2025

 **Next Checkpoint:** After first successful trading session