Professional Infrastructure Checklist

Signal Pilot Education Hub

🖥️ Professional Trading Infrastructure Checklist

Lesson 41: Professional Infrastructure

This checklist guides you through building a professional trading setup with redundancy, reliability, and the tools needed for consistent execution.

📋 Hardware Setup

Computer Specifications (Minimum Professional)

- [ ] **CPU:** Intel i7 / AMD Ryzen 7 (8+ cores) - No lag during execution
- [ ] **RAM:** 32GB (64GB if running backtests/simulations)
- [ ] **GPU:** Mid-range (for multi-monitor support)
- [ ] **Storage:** 1TB NVMe SSD (fast data access, no HDD)

- [ ] **Network:** Wired Ethernet 1Gbps (NOT WiFi - WiFi = latency)
- [ ] **Cost:** $1,500-$2,500 (worth it for reliability)

Multi-Monitor Setup (4-6 Screens)

- [ ] **Monitor 1 (32" 4K):** Main charts (Daily, 4H, 1H, 15min) - See all timeframes
- [ ] **Monitor 2 (27"):** Order flow (footprint chart, DOM, volume profile)
- [ ] **Monitor 3 (27"):** Macro context (ES, NQ, VIX, DXY, sector ETFs)
- [ ] **Monitor 4 (24"):** Execution (order entry, P&L, positions)
- [ ] **Optional 5/6:** News feed, watchlist, economic calendar
- [ ] **Cost:** $1,500 total (4 monitors + mounts)

Desk & Ergonomics

- [ ] **Standing/adjustable desk** - Sit/stand option (long hours = back pain)
- [ ] **Ergonomic chair** - Herman Miller, Steelcase ($500-1,000)
- [ ] **Monitor arms** - Adjustable height/angle (reduce neck strain)
- [ ] **Keyboard/mouse:** Mechanical keyboard, ergonomic mouse

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🎯 Internet & Power Redundancy

Primary Internet Connection

- [ ] **Fiber internet (1Gbps)** - Fastest consumer option ($80/month)
- [ ] **Latency:** 10-20ms to broker servers (lower = better execution)
- [ ] **Wired connection** - Ethernet cable from router (NOT WiFi)
- [ ] **Router quality** - Business-grade router (Ubiquiti, Cisco)

Backup Internet (Critical!)

- [ ] **4G/5G hotspot** - Mobile hotspot as failover ($50/month)
- [ ] **Auto-failover setup** - Dual-WAN router switches automatically
- [ ] **Test monthly** - Simulate primary internet failure, verify backup works
- [ ] **Mobile app access** - Broker app on phone (last resort to close positions)

Uninterruptible Power Supply (UPS)

- [ ] **1500VA UPS minimum** - 30+ min runtime (CyberPower, APC)
- [ ] **Cost:** $150-300
- [ ] **Purpose:** Power outage → 30 min to close positions cleanly
- [ ] **Test quarterly** - Unplug, verify UPS powers system for 30 min

Disaster Recovery Protocol

- [ ] **If primary system fails:**
  1. Access positions via mobile app
  2. Close all positions or place stops
  3. Switch to backup laptop + hotspot
  4. Log incident, review after market close
- [ ] **Drill this quarterly** - Practice makes perfect

📊 Software Stack

Trading Platform

- [ ] **TradingView Pro+ ($60/mo)** - Best charting, alerts, multi-device
- [ ] **ThinkorSwim (Free)** - TD Ameritrade, advanced tools

- [ ] **Sierra Chart ($36/mo)** - Futures, order flow, DOM
- [ ] **Interactive Brokers TWS (Free)** - Multi-asset professional platform
- [ ] **Recommendation:** TradingView charts + Broker platform for execution

Data Feeds

- [ ] **Level 1 (bid/ask):** Free with most brokers (sufficient for swing)
- [ ] **Level 2 (order book):** $10-30/month (for scalping/order flow)
- [ ] **Tick data:** $50-100/month (for backtesting precision)
- [ ] **Economic calendar:** Investing.com (free), Trading Economics

Backtesting & Analytics

- [ ] **Python (pandas, backtrader):** Free, flexible (learn to code)
- [ ] **QuantConnect ($20-100/mo):** Cloud-based, no coding required
- [ ] **TradeStation ($100/mo):** Full platform (backtesting + live)
- [ ] **Amibroker ($300 one-time):** Fast, powerful (Windows only)

Trade Journaling

- [ ] **Edgewonk ($99/year):** Excel-based, detailed analytics
- [ ] **TraderSync ($40/mo):** Auto-import trades, cloud-based
- [ ] **TradeZella ($30/mo):** Modern UI, AI insights
- [ ] **Google Sheets (Free):** Manual but works (better than nothing)

Monitoring & Alerts

- [ ] **TradingView alerts:** Price crosses, indicator triggers
- [ ] **Telegram bot:** Trade notifications, P&L updates
- [ ] **Email/SMS alerts:** For critical events (kill-switch triggers)

- [ ] **Custom dashboard:** Python script tracking portfolio metrics

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📊 Cost Breakdown (Annual)

Hardware (One-Time, Amortized Over 3 Years)

- [ ] **PC:** $2,000 / 3 = $667/year
- [ ] **Monitors (4x):** $1,500 / 3 = $500/year
- [ ] **Desk, chair, accessories:** $500 / 3 = $167/year
- [ ] **Total hardware:** ~$1,334/year

Software (Monthly)

- [ ] **Trading platform:** $60/month = $720/year
- [ ] **Data feeds:** $100/month = $1,200/year
- [ ] **Backtesting:** $50/month = $600/year
- [ ] **Journal:** $40/month = $480/year
- [ ] **Total software:** ~$3,000/year

Infrastructure

- [ ] **Internet (fiber):** $80/month = $960/year
- [ ] **Backup internet:** $50/month = $600/year
- [ ] **UPS:** $200/year (replacement every 3-5 years)
- [ ] **Cloud storage:** $100/year (backups)
- [ ] **Total infrastructure:** ~$1,860/year

Grand Total: ~$6,200/year (~$517/month)

ROI Perspective

- One avoided mishap (internet failure during position) = $2,000+ saved
- Better execution (tight spreads, low slippage) = $500/month saved
- Infrastructure pays for itself through reliability

📊 Monitoring Dashboard

Real-Time Performance Metrics

- [ ] **Today P&L:** +$1,250 (+1.25%)
- [ ] **Week P&L:** +$3,800 (+3.8%)
- [ ] **Month P&L:** +$12,400 (+12.4%)
- [ ] **Max DD today:** -0.8%

Position Monitoring

- [ ] **Open positions:** 3
- [ ] **Total exposure:** $45,000 (45% of capital)
- [ ] **Total risk (heat):** $1,800 (1.8% portfolio risk)
- [ ] **Margin used:** 35% (buffer remaining)

System Health

- [ ] **API latency:** 45ms (normal = < 100ms)
- [ ] **Data feed status:** Connected
- [ ] **Errors (last hour):** 0

- [ ] **Uptime:** 99.2%

💡 Pro Tips

Infrastructure Mastery

- **Redundancy at every layer** - Dual internet, UPS, backup laptop (plan for failure)
- **Wired > WiFi** - 10-20ms advantage (matters for execution)
- **Multi-monitor = edge** - See everything at once (no tab switching)
- **Cloud VPS for bots** - Don't run bots on home PC (99.9% uptime = $5-20/month)

Common Mistakes to Avoid

- ❌ Single point of failure (no backup internet/power)
- ❌ Running on laptop WiFi (latency + reliability issues)
- ❌ Cheap hardware (crashes during critical moments)
- ❌ No monitoring dashboard (flying blind)
- ❌ Skipping disaster drills (unprepared when failure happens)

Professional vs. Amateur Setup

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Amateur:
- 1 laptop (13" screen)
- WiFi connection
- No backup
- No UPS
- Free TradingView
Cost: $1,000
Handicap: Severe
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Professional:
- 4 monitors + desktop PC
- Wired ethernet + backup hotspot
- UPS + backup laptop
- Full software stack
Cost: $6,200/year
Edge: Significant
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Infrastructure Upgrade Priority

1. **Backup internet** (highest impact, prevents catastrophic loss)
2. **UPS** (cheap insurance, prevents panic)
3. **2nd monitor** (productivity +50%)
4. **Wired ethernet** (latency reduction)
5. **3rd/4th monitor** (diminishing returns, but nice to have)

📚 Related Resources

- **Lesson 37:** Trading Automation APIs (deploy bots on cloud VPS)
- **Lesson 40:** Tax Optimization (infrastructure costs = tax deductible with TTS)
- **Recommended Vendors:** DigitalOcean (VPS), CyberPower (UPS), Dell (monitors)

Version: 1.0
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Difficulty: Advanced

Remember: Amateurs wing it. Professionals build systems. Infrastructure is boring, but it's the foundation of consistency. One avoided disaster pays for years of infrastructure.
