Argo Training

ATP Operations

Subject **Basic** **Advanced**	Content	Materials	Number of units (1unit=45min)	Instructor	Schedule
ATP configuration	ATP OMS, MDF, RMS, Matching Engine, Robot Hosting, Transaction Server, Payment Gateway, FIX Hub, Argo Trader and Risk management Front-end configuration files, FIX, inter-process communications, trading venue and market data provider connections, logging configuration.	ATP Administrator's Guide, ATP reference setup configuration files, ATP data flow diagrams, Instructor's Notes.	4		
ATP FIX connections	FIX protocol session and application layers, session identity, FIX messages, FIX session logging, FIX session persistence, FIX connection configuration in ATP configuration files and ATP database. FIX session configuration in RMFE.	ATP Administrator's Guide, ATP reference setup configuration files, ATP FIX References.	2		
ATP system monitoring and troubleshooting	Host OS (Linux or Windows) system memory, CPU, network monitoring, ATP processes health monitoring, ATP logs, Nagios-based health processes monitoring, network monitors/sniffers, typical ATP system health issues discovery and corrections.	OS and Nagios documentation, man and help pages, ATP data flow diagrams, Instructor's Notes.	2		

Subject **Basic** **Advanced**	Content	Materials	Number of units (1unit=45min)	Instructor	Schedule
ATP market configuration	ATP configuration of instruments (asset types) and instrument groups, instrument pricing rules, matching algorithm, trading rules, risk control and settlement policies, market schedule, continuous and call auction sessions, fees schedule, market participant connections.	ATP Risk Management Front-end Guide, ATP data flow diagrams, Instructor's Notes.	2		
ATP risk management	Account onboarding, risk limit profile, trading on margin and on cash policies, margin policies, account risk exposure monitoring, pre-trade risk checks, order and trade flow surveillance facilities, administrative interventions and kill switches.	ATP Risk Management Front-end Guide, ATP data flow diagrams, Instructor's Notes.	2		
ATP front-ends operations	Order entry and management, market data visualization, account, balances and positions visualization, technical analysis, troubleshooting.	ATP Front-end User's Guides, ATP data flow diagrams, Instructor's Notes.	1		
ATP client facing web-infrastructure configuration	Configuration of client-facing web components: web front-end, client portal, CRM integration, ATP trading front-ends download area, front-ends automatic updates.	ATP Administrator's Guide, ATP reference setup configuration files, ATP data flow diagrams, Instructor's Notes.	2		
ATP API programming	ATP API order management, market data handling, risk information handling, technical analysis. ATP C++ native and REST/WebSocket APIs.	ATP API Reference, ATP Robot Developer's Guide, ATP FIX References, ATP data flow diagrams, Instructor's Notes.	4		

Subject **Basic** **Advanced**	Content	Materials	Number of units (1unit=45min)	Instructor	Schedule
ATP automatic trading strategies development and hosting	Automatic trading strategy (robot) -to-ATP front-end communication, strategy input (parameters) and output (running state) XML configurations and handling parameters and generating state information in robot code, robot–to–order management system, robot-to-market data feeder, robot-2-risk management server connections.	ATP API References, ATP Robot Developer's Guide, Argo Trader User's Guide, ATP FIX References, ATP data flow diagrams, Instructor's Notes.	2		

ATP Technology/Extensions

Subject **Basic** **Advanced**	Content	Materials	Number of units (1unit=45min)	Instructor	Schedule
ATP architecture	Architecture of ATP processes, internal threads of executions and queues, inter-process communications: shared memory, TCP, reliable multicast.	ATP data flow diagrams, Instructor's Notes	1		
ATP server-side C++ source code, project structure	ATP server-side code structure of ATP server components: order management system, market data feeder, risk management server, transaction server, matching engine, FIX hub, server-side 3d party C++ libraries, ATP server-side build system Makefiles (Linux) and solutions (Windows), development tools, 3d party libraries, ATP build process on Linux or Windows.	ATP source code reference installation, Instructor's Notes	4		
ATP desktop, web-side and mobile front-ends project structure	ATP Argo Trader, Risk Management Front-end, web and mobile front-ends code base structure, 3d party .Net and JS libraries. Front-end build system, solutions. Front-end build, deployment, automatic updates.	ATP source code reference installation, Instructor's Notes.	2		
ATP 3d party server-side libraries: Boost, ACE, QuickerFIX, DevExpress, SQLAPI	3d party libraries ACE, Boost, QuickerFIX, SQLAPI, DevExpress architecture, structure, build process, source code examples, use in ATP Makefiles and solutions, 3d party libraries modifications made by Argo.	ACE, Boost, QuickerFIX, SQLAPI, DevExpress, documentation, ATP source code reference installation.	2		

Subject **Basic** **Advanced**	Content	Materials	Number of units (1unit=45min)	Instructor	Schedule
ATP inter-process communications	FIX, TCP, reliable UDP multicast (RMCast), HTTP/HTTPS/REST, WebSocket communications within ATP system	ATP data flow diagrams, Instructor's Notes, ATP source code reference installation.	2		
ATP database	ATP relational database structures (tables, views, stored procedure), Transaction Server configuration and operations.	ATP database ER diagrams and database objects (tables, views, stored procedures) descriptions, ATP data flow diagrams, Instructor's Notes.	2		
ATP order management and market data adapters development	ATP order management and market data adapters architecture, FIX, proprietary protocol and API connections to trading venue and market data sources, getting data to and out of adapters.	ATP source code reference installation, adapters source code, order management and market data FIX References, Instructor's Notes.	2		
ATP Code Performance Optimization	ATP code profiling tools on Linux and Windows, multithreading, blockless and lock-free structures, memory pools, cache friendly programming, main collection and algorithms optimizations, inter-process communications optimizations for latency and throughput, kernel-bypass IP stacks, common performance bottlenecks.	ATP source code reference installation, Instructor's Notes.	4		

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How to extend ATP	Instrument data structures, how to add a new instrument, risk limit profile structures – how to extend risk control and management schemas, how to add a new matching algorithm, how to add a new smart order type, a new smart routing policy.	ATP source code reference installation, ATP data flow diagrams, Instructor's Notes.	4		

Algorithmic and High Frequency Trading with Python and C++.

Subject **Basic** **Advanced**	Content	Materials	Number of units (1unit=45min)	Instructor	Schedule
Algorithmic Trading –	Popular trading strategies, their applicability for different market conditions, market data, order types, backtesting, backtesting frameworks, coding concept strategy on Python, slippage, fees and commissions, overnight positions costs, coding strategy on C++, forward testing in market simulation environment.	Instructor's Notes.	2		
Order Management and Market Data Protocols and APIs	Order management operations (new, cancel, cancel/replace), market data elements (BBO, last trade, session statistics, market depth, MBO, OHLC), TCP, UDP multicast, REST/WebSocket, FIX, FIX SBE, CME MDP, order flow control, market data handling on C++.	Instructor's Notes.	4		

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HFT Trading	Prerequisite: Algorithmic Trading, Order Management and Market Data Protocols. High performance/low latency coding in C++: multithreading, atomic intrinsics, blockless/lock-free techniques, zero-copy design, coroutines, SIMD, cache-friendly data structures, thread-local storage, stack-based (vs. heap) memory usage, memory pools (vs. heap dynamic allocation), kernel bypass IP stacks, network accelerators, FPGA.	Instructor's Notes.	6		
How to use AI to Automate Trading Strategy Development	We are working on this training session, expected delivery – by Q3 2025.				