📘 FpML Course

SECTION 1 – Foundation of FpML (1–30)

1. What is FpML and Why It Matters
2. History and Evolution of FpML
3. The Role of ISDA in FpML
4. FpML Use Cases Across Banks and Fintechs
5. FpML vs FIX vs ISO20022
6. Understanding OTC Derivatives
7. Overview of Trade Lifecycle
8. The Importance of Standards in Financial Messaging
9. Basics of XML and Schema (XSD)
10. XML Validation and Namespaces
11. Understanding XML Schema Design Patterns
12. Core Concepts of FpML Architecture
13. Anatomy of an FpML Document
14. Data Hierarchies in FpML
15. Understanding Identifiers and References
16. Party and Role Representation
17. Overview of Trade Components
18. Product vs Event in FpML
19. Versioning in FpML
20. The FpML Schema Repository
21. Tools to Explore FpML (Oxygen XML, Altova XMLSpy)
22. Setting Up an FpML Sandbox
23. How FpML Integrates with Messaging Systems
24. Key FpML Namespaces Explained
25. Message Validation in Practice

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26. FpML Documentation and Conventions
27. Working with FpML Examples
28. FpML Best Practices from ISDA
29. Introduction to FpML Governance
30. Review and Practice Exercise: Parsing a Sample FpML Trade

SECTION 2 – FpML Core Architecture (31–60)
31. FpML Business Processes Overview
32. Core Message Types
33. Trade, Event, and Portfolio Message Structures
34. Reusability and Complex Types
35. Enumerations and Code Lists
36. Understanding Party Hierarchies
37. Basic Trade Elements Explained
38. Schedule and Date Handling
39. Business Day Conventions
40. Payment Calculation and Stub Periods
41. Interest Calculation Models
42. Floating Rate Index Representation
43. Market Data Representation
44. Pricing and Valuation Data in FpML
45. Cross-References and Linkages
46. The Role of the Event Model
47. Lifecycle Events in FpML
48. How FpML Handles Amendments
49. Compression and Portfolio Rebalancing
50. Representing Terminations and Novations
51. FpML Messaging Protocols
52. Static Data in FpML
53. Counterparty Legal Structure

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54. Collateral Representation Basics
55. Business Rule Validation (BRV)
56. Schema Validation vs Business Validation
57. Document Header and Envelopes
58. FpML Schema Navigation
59. Troubleshooting Validation Errors
60. Lab: Validating a Swap Confirmation Message

SECTION 3 – Interest Rate Derivatives (61–130)

61. Introduction to IRD in FpML
62. Plain Vanilla Interest Rate Swap
63. Floating vs Fixed Legs
64. Notional Schedule
65. Rate Calculation Periods
66. Day Count Fractions
67. Stub Period Representation
68. Payment Schedule Definition
69. Business Centers
70. Cashflow Elements
71. Index Handling (LIBOR, SOFR, EURIBOR)
72. Compounding and Averaging
73. Cross-Currency Swaps
74. Basis Swaps
75. Amortizing Swaps
76. Accreting Swaps
77. Constant Notional Swaps
78. Dual Currency Swaps
79. Interest Rate Caps and Floors
80. Interest Rate Options
81. Swaptions
82. Bermudan Swaptions

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83. Digital Options
84. FpML Example – Fixed-Float Swap
85. FpML Example – Basis Swap
86. FpML Example – Amortizing Swap
87. Inflation Swaps
88. Zero-Coupon Swaps
89. FRAs (Forward Rate Agreements)
90. Compounded Rate Example
91. Overnight Index Swaps
92. ISDA Definitions for Rates
93. Reset Dates Handling
94. Schedule Generator Logic
95. Exercise on FRAs
96. Valuation Events Representation
97. Early Termination Events
98. Fixing Notices
99. IRD Trade Event Lifecycle
100. Review: Building a Full Swap Trade XML
101–130. 30 mini-lessons covering all rate derivative variations and validation exercises
SECTION 4 – Credit Derivatives (131–190)
131. Overview of Credit Derivatives
132. Credit Default Swaps (CDS)
133. Protection Buyer/Seller Roles
134. Reference Entity and Obligation
135. Credit Events (Bankruptcy, Failure to Pay)
136. Single Name vs Index CDS
137. Basket CDS Representation
138. Tranche CDS
139. Total Return Swaps on Credit

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140. Settlement Terms
141. Fixed and Floating Legs in CDS
142. Upfront Payments
143. Accrual and Coupon Dates
144. Recovery Rate Modeling
145. Credit Events Messaging
146. FpML Credit Event Notice
147. Valuation Post-Event
148. Index CDS Roll Mechanism
149. CDS Clearing Workflow
150. Example: iTraxx Index Representation
151–190. 40 detailed exercises on CDS lifecycle, events, matching, and regulatory reporting

SECTION 5 – FX and Equity Derivatives (191–270)

191. FX Spot and Forward
192. FX Swap
193. FX Options
194. FX NDF (Non-Deliverable Forward)
195. Cross-Currency Pairs
196. Settlement Conventions
197. Deliverable vs Non-Deliverable
198. Equity Forward
199. Equity Option
200. Equity Swap
201. Dividend Adjustments
202. Price Source Definitions
203. Barrier and Digital Options
204. Basket of Equities
205. Index Options

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206. Structured Equity Products
207. Corporate Action Handling
208. FX Volatility Surface
209. Market Data XML for FX
210. Exercise: FpML FX Forward Trade
211–270. 60 chapters of detailed examples, lifecycle events, and automation workflows
SECTION 6 – Commodities and Other Asset Classes (271–310)
271. Commodity Swaps
272. Commodity Forwards
273. Commodity Options
274. Energy and Oil Products
275. Metals Representation
276. Agricultural Products
277. Physical vs Financial Settlement
278. Weather Derivatives
279. Freight Derivatives
280. Emissions Trading
281–310. 30 product-specific chapters + schema and validation exercises
SECTION 7 – Business Processes and Messaging (311–360)
311. FpML Process Architecture
312. Messaging Concepts (Request/Response/Notification)
313. Confirmation Workflow
314. Matching Workflow
315. Novation and Transfer
316. Termination Message
317. Amendment Workflow
318. Valuation Message
319. Portfolio Reconciliation

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320. Collateral Message
321. Credit Event Notification
322. Corporate Action Notification
323. Clearing Workflow
324. Lifecycle Event Processing
325. Compression and Portfolio Rebalancing
326. Regulatory Reporting Workflow
327. Cross-System Integration Patterns
328. Example: Confirmation and Validation Flow
329–360. 30+ use case walkthroughs (CCP clearing, EMIR, Dodd-Frank, UTI handling)
SECTION 8 – Implementation and Integration (361–440)
361. Parsing FpML in Python
362. Parsing FpML in Java
363. Using XSD Validation Libraries
364. Converting to JSON
365. Transforming with XSLT
366. Creating REST APIs for FpML
367. Integration with MQ / Kafka
368. Storing FpML in Databases
369. Indexing FpML Data
370. Search and Query Engines
371. Linking FpML with Risk Systems
372. Static Data Management
373. Workflow Automation
374. Data Quality Checks
375. Error Handling
376. FpML Testing Framework
377. Continuous Integration for FpML Messages
378. Version Control for Schemas

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379. Cross-Version Compatibility
380. Handling Deprecated Elements
381–440. 60 hands-on development exercises and real case implementations
SECTION 9 – Advanced Topics & Governance (441–490)
441. Extending FpML for Proprietary Products
442. Custom Namespace Creation
443. Validation Rules Customization
444. Event Handling Logic
445. ISDA CDM and its Link to FpML
446. ISO 20022 Transition Strategy
447. FpML in Regulatory Reporting
448. Common Implementation Pitfalls
449. Data Lineage in FpML
450. Governance and Version Management
451–490. 40 advanced exercises, best practices, and enterprise use case walkthroughs
SECTION 10 – Case Studies, Projects & Certification (491–520)
491. End-to-End Interest Rate Swap Trade
492. End-to-End Credit Derivative Confirmation
493. FX Option Lifecycle Automation
494. Collateral Management Use Case
495. FpML and Data Lake Integration
496. Cross-Platform Validation
497. Generating Reports from FpML
498. Creating an FpML Validation Engine
499. Mini Project – Portfolio Reconciliation
500. Capstone Project – Build an FpML Gateway
501. 501–520. 20 assessment modules, quizzes, and certification preparation"

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