

Mirth Connect Advanced Certification Training

SYLLABUS

Mirth Connect Advanced Training (Days 1-3)

1. Course Introduction
 - a. Introductions
 - b. Course Overview
 - c. Course Materials
2. Mirth Connect User API
 - a. Overview
 - b. Message Data
 - c. Channel Data
 - d. LAB: Programmatically affect channels using User API
 - e. Routing
 - f. Serialization
 - g. Other Uses
3. Java & JavaScript in Mirth Connect
 - a. Using Java Classes in Mirth Connect
 - b. Resources
 - c. Code Templates
4. Advanced Database Concepts
 - a. Database Operations in JavaScript
 - i. Mirth Connect Database Classes
 - ii. Database Code Templates
 - iii. Parameterization
 - iv. LAB: Executing an INSERT using parameterization
 - b. Database Reader – JavaScript Mode
 - i. Database Reader
 - ii. Custom Message Sets
 - iii. Advanced Updates
 - c. Database Operations in Filters, Transformers
 - i. Creating repeating segments from multiple rows in a table
 - ii. LAB: Create an HL7 message with repeating segments from data in database
 - d. Stored Procedures & Functions
 - e. Storing Connections
 - i. LAB: Create and use a code template for database operations with stored connection
5. Velocity Programming Concepts
 - a. About Velocity
 - b. The Velocity Template Language (VTL)
 - i. References: Variable, Properties & Methods
 - ii. Rendering
 - iii. Directives/programming structures
 - iv. DateTool and the `$(date)` object
 - v. LAB: Dynamically format output using Velocity
6. Mirth Connect User API – Lists & Maps
 - a. ListBuilder & Lists
 - b. MapBuilder & Maps
7. In-Depth HL7 Processing
 - a. Segment Groups
 - i. Advanced Segment Repetitions
 - ii. Extracting Data from Segment Groups
 - b. Splitting Messages
 - c. LAB: Split message with multiple orders
 - d. Store-and-Forward
 - e. LAB: Forward ORM only once corresponding ADT received
 - f. Combining Messages
 - g. Field Repetitions
 - i. Accessing Data
 - ii. Adding/Deleting Repetitions
 - h. LAB: Extract data from repeating field
8. Encoded Data & Attachments
 - a. Encapsulated Data
 - b. Reading/Writing Binary Data
 - i. Binary Mode of File Connectors
 - ii. FileUtil Methods
 - c. Base64 Encoding
 - i. Adding Base64 to HL7 Messages
 - ii. Extracting Base64 from HL7
 - iii. Base64 Across Multiple Segments
 - iv. LAB: Processing messages with Base64-encoded data
 - d. Attachments
 - i. Overview
 - ii. Attachment Handling
 - A. Entire Message
 - B. RegEx
 - C. JavaScript
 - D. Custom
 - iii. Viewing Attachments
 - iv. LAB: Process messages with Base64 data as attachments

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9. HTTP & Web Services
 - a. SOAP Web Services
 - i. Overview
 - b. Web Service Connectors
 - i. Web Service Listener
 - ii. Web Service Sender
 - iii. LAB: Sending & Receiving Messages Using Web Service Connectors
 - c. Processing SOAP Responses
 - i. XML Namespaces
 - ii. LAB: Process a SOAP response envelope
 - d. HTTP Connectors
 - i. HTTP Listener
 - ii. HTTP Sender
 - iii. Processing HTTP Requests
 - e. HTTP Authentication
 - f. RESTful Web Services
 - i. Overview
 - A. Communicating with
 - B. Implementing
 - ii. JSON
 - iii. LAB: Implement RESTful web services using HTTP Connectors
10. Destination Sets
 - a. Overview
 - b. Modifying DestinationSet in JavaScript
 - c. LAB: Perform Routing by Modifying the Destination Set
 - d. Destination Set Filters
11. Mirth Connect Client APIs
 - a. REST Client API
 - b. Java Client API
12. The Mirth Connect Database – A Closer Look
 - a. Database Schema
13. Mirth Connect Advanced Training Wrap-Up
 - a. Open Questions & Answers

Advanced Certification (Day 4)

1. Certification Overview/Agenda/Review
2. Multiple Choice Exam
3. Practical (Hands-On) Exam