Training Courses– HL7+Mirth Connect

Course Aims

This course is for HL7 programmers, interface developers and dedicated Implementers and is designed to provide the skills for the analysis testing, problem tracking and activation of phases of an HL7 project. Attendees will learn HL7 design, trigger concepts, message formatting rules, data types, enhanced acknowledgement rules, identifiers, and table translation issues. Course work includes hands on exercises.

On completion of this course, attendees will have gained a deep understanding of HL7 messaging processes and practices, with the ability to effectively read, understand, analyse, design, develop, market and test HL7 messages.

Course Structure

- Session 1 – Healthcare Messaging Standards
- Session 2 – Concepts and Principles
- Session 3 - 7 – Building Messages and Segments
- Session 8,9 – HL7 Building Blocks   (Data Types)
- Session 10 - 15 – Mirth Integration Engine
- Session 16 – Networking
- Session 17 – Mirth Connect – Channel Creations
- Session 18 – Mirth Connect – Channel Creations
- Session 19 – Mirth Connect – Channel Creations
- Session 20 – Mirth Connect – Channel Creations
- Session 21 – XML – E4X
- Session 22 – Basic Programming (JS)
- Session 23 – Basic Programming (JS)
- Session 24 – Mirth Connect Filters/Transformers
- Session 25 – Mirth Connect Filters/Transformers
- Session 26 – Mirth Connect Transformers
- Session 27 – Mirth Connect Transformers
- Session 28 – Conformance & Specification
- Session 29,30 – CCD, FHIR, MU (Birds eye on other aspects of Healthcare standards)

Session 1 – Healthcare Messaging Standards
Objective

This session will give an understanding of why messaging is used in healthcare and the goals that are achieved. The session will conclude with a view of the scope of HL7 and the concepts and Principles used in messaging.

- Hospital Workflow
- Why HL7 - Purpose & Scope
- Development of HL7
- HL7 Messaging system
- Understanding HL7 structure
- HL7 Concepts
- Encoding Characters

Sessions 2 – Concepts and Principles

Objective

This session gives an understanding of what HL7 is and its concepts. It introduces messaging types and trigger events and then goes into the building of HL7 messages and the elements involved in the construction. It goes into detail of the structure and the roles of each message component.

- Trigger Events
- Message Types
- Segments/Structures
  - ADT^A04
    - MSH

Session 3 - 7 – Building Messages and Segments

Objective

In this session details of messages their segments (down to the field level) will be fully discussed. Most important messages and segments shall be covered.

- Session – 3
  - Segments/Structures
    - ADT^A04
- Session – 4
  - Segments/Structures
    - SIU^S12
    - DFT^P03

- Session – 5,6,7
  - Segments/Structures – custom Segments
    - ORM^O01
    - ORU^R01
    - MDM
    - QRY
    - ACK

Session 8,9 – HL7 Building Blocks (Data Types)

Objective

This session discusses in detail concepts of data types and all-important data types with examples.

- Data Types 1 (Alphanumeric/numeric/identifiers)
- Data Types 2 (Demographic/coded)
- Data Types 3 (Date-Time/miscellaneous)

Session 10 - 15 – Mirth Integration Engine
Objective

This session examines the details of Mirth Integration Engine Architecture

- Session – 10
    - Mirth Architecture and Installation
- Session – 11
    - Mirth Connect Components
        - Dashboard
        - Channels Tasks
        - Alerts
        - Events
        - Extensions
        - Group tasks

- Session – 12
    - Mirth Connect Components
        - Summary tab and Source tab
- Session – 13
    - Mirth Connect Components
        - Source tab and Destination tab
- Session – 14
    - Mirth Connect Components
        - Variables in destination screen
        - Scripts tab
        - Message view screen its options
- Session – 15
    - Message Forms
        - Raw, Encoded, Transformed, Sent, Response

Session 16 – Networking
Objective

This session covers details of Networking that comes in to play while implementing an HL7 interface

- TCP/IP
- Folders
- SFTP/FTP
- Webservices
- Database Readers

Session 17 – Mirth Connect – Channel Creations
Objective

This session helps you to start building real time HL7 channels

- Creating Channels
    - Explanation of scenario
    - Folder to Folder – HL7 – pass thru channel with Demo

Session 18 – Mirth Connect – Channel Creations

Objective

This session helps you to start building real time HL7 channels

- Creating Channels
  - Explanation of Scenarios
  - Folder to TCP/IP – HL7 – pass thru channel with demo
  - TCP/IP to Folder - pass thru channel with demo

Session 19 – Mirth Connect – Channel Creations

- Creating Channels – Database Reader
  - Database reader to a Folder
  - Explanation of message builder Transformer
  - Construct HL7 using msg builder

Session 20 – Mirth Connect – Channel Creations

- Creating Channels - Database Writer
  - Folder to Database writer
  - Mapping variables of HL7
  - Inserting Data using created variables

Session 21 – XML – E4X

- XML and how it is read
- Importance of E4X and how navigation works

Session 22 – Basic Programming *(JS sessions include very basic concepts for mirth – not the complete tutorial)*

- JavaScript – Basics 1
  - Variables
  - Data Types
  - Operators
  - Comparisons

Session 23 – Basic Programming *(JS sessions include very basic concepts for mirth – not the complete tutorial)*

- JavaScript – Basics 2
  - If condition
  - Loops – While/For/For each
  - Functions

Session 24 – Mirth Connect Filters/Transformers

- Filters
  - Rule builder
  - External Script
  - JavaScript
  - Use case scenarios

Session 25 – Mirth Connect Filters/Transformers

- Transformers
  - Destination Set Filter
  - External script
  - JavaScript
  - Mapper
  - Message Builder
  - Use case scenarios
- Explanation of Channel Maps

Session 26 – Mirth Connect Transformers

- Exercises/Assignments

Session 27 – Mirth Connect Transformers

- Exercises/Assignments

Session 28 – Conformance & Specification

Objective

This session examines conformance in HL7 messaging and the reason for its use. Conformance profiles are examined in detail as well as the conformance tools that are available.

- Why Conformance?
- Conformance Profile 1 (Use case/dynamic)
- Conformance Profile 2 (Static)
- Conformance Tools

Session 29,30 – CCD, FHIR, MU (Birds eye on other aspects of Healthcare standards)

Objective

This session is to look at CDA, CCD, FHIR (To understand what are these and how are they used)

- What is MU
- What is HIE
- CCD
- FHIR

If you have any More Questions Feel Free to Call/whats app :

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