Development Training Course for IBM Integration Bus

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| **Topic** | **Content** | **Time** |
| **Day 1** | | |
| **Introduction to IBM Integration Bus** | * Course Introduction * Introduction to IBM Integration Bus * Describing features and uses of IBM Integration Bus * New Features in IBM Integration Bus | **1.5 hours** |
| **Break** | | **15 mins** |
| **Application development fundamentals** | * Understanding the concept of Applications and Integration Projects * Understanding the concept of Libraries * Understanding the difference between   Static and Shared libraries and their usage | **1.5 hour** |
| **Break** | | **15 mins** |
| **Developing SOAP Services** | * Developing Integration Solutions | **30 mins** |
| **Lunch and Prayer Break** | | **1 hour** |
| **Developing SOAP Services (contd.)** | * Exercise: Creating an Integration   Service | **1 hour** |
| **Developing REST Services** | * Introduction to developing REST API’s * Exercise: Develop a REST API | **2 hours** |
| **Day 2** | | |
| **Creating message flow applications** | * Creating message flows * Adding nodes to message flow * Package and deploy message flow applications and resources | **1.5 hours** |
| **Break** | | **15 mins** |
| **Message Modelling** | * Understanding message modelling concepts * List of available parsers in IBM App Connect * Message parsing and serialization * Exercise: Implementing a DFDL message model | **2 hours** |
| **Break** | | **15 mins** |
| **Understanding and using ESQL** | * Understanding ESQL concepts * Comparison between SQL and ESQL | **30 mins** |

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|  | * Understanding ESQL constructs |  |
| **Lunch and Prayer Break** | | **1 hour** |
| **Connecting to IBM MQ** | * IBM MQ connection options * Examine the properties of IBM MQ nodes * Create and attach an MQ-Endpoint policy to MQ nodes * Exercise: Connecting to IBM MQ | **1.5 hours** |
| **Break** | | **15 mins** |
| **Logging and exception handling** | * Understanding importance of exception handling and logging * Understanding exception handling and propagation mechanism in a message flow * Use Try-Catch and throw nodes to implement explicit error handling within a message flow * Understanding different logging   options available | **45 mins** |
| **Day 3** | | |
| **Logging and exception handling (contd.)** | * Exercise: Implementing logging and   exception handling in a message flow | **1 hour** |
| **Break** | | **15 mins** |
| **Processing File Data** | * Describe file processing nodes * Use file as a message flow source and target * File nodes using FTP and SFTP to transfer data * Exercise: Processing file data | **1.5 hours** |
| **Break** | | **15 mins** |
| **Transformation using Mapping Node** | * Using graphical data mapping editor to map logical messages * Using message maps within a message flow * Exercise: Transformation using   mapping node | **1.5 hour** |
| **Lunch and Prayer Break** | | **1 hour** |
| **Transformation using Compute Nodes** | * Use compute node to transform messages * Use java compute node to transform   messages | **2 hours** |

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|  | * Exercise: Transformation using   compute node |  |
| **Break** | | **15 mins** |
| **Referencing database in a message flow** | * Configuring database nodes to access database * Use database processing nodes to modify and control message   processing. | **45 mins** |
| **Day 4** | | |
| **Introduction to Web Service Protocols supported in IBM Integration Bus** | * Understanding SOAP and HTTP Protocol for exposing and consuming web services * Supporting web services | **30 mins** |
| **Event driven processing nodes** | * Aggregate messages in a message flow (Aggregation Nodes) * Run processes at specified time or at fixed intervals (Timer Nodes) * Exercise: Implementing message   aggregation | **2 hours** |
| **Break** | | **15 mins** |
| **Transforming data with XSL stylesheets** | * Using XSL stylesheets for data transformation * XSL Transform node to transform an XML message to another form of message, according to the rules provided by an Extensible Stylesheet Language (XSL) stylesheet * Exercise: Implementing data   transformation using XSLT | **1.5 hours** |
| **Lunch and Prayer Break** | | **1 hour** |
| **Analyzing XML documents** | * Understanding data analysis tools available in the IBM Integration Toolkit for analyzing XML data * Using IBM Integration Toolkit Data Analysis perspective to analyze and filter information in complex XML   documents | **30 mins** |
| **Modelling complex data with DFDL** | * Reuse a DFDL model to create a more complex model * Define length prefixes in a DFDL model | **1 hours** |

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|  | * Define a DFDL model to make parsing decisions that are based on the   content of other elements |  |
| **Break** | | **15 mins** |
| **Modelling complex data with DFDL (contd.)** | * Exercise: Extending a DFDL model and   using discriminators | **1 hour** |
| **Day 5** | | |
| **Connecting IBM MQ using a discovered service** | * Create an IBM MQ request and response service * Publish the IBM MQ services in an Integration Registry * Create a message flow that   implements an IBM MQ service | **30 mins** |
| **Creating a decision service** | * Create a decision service that implements business rules * Using decision service in a message flow application to provide routing, validation, and transformation * Exercise: Implementing a decision   service | **2 hours** |
| **Break** | | **15 mins** |
| **Data caching strategies** | * Using Shared Variables * Using Global Cache * Exercise: Using IIB Embedded Global Cache | **2 hours** |
| **Lunch and Prayer Break** | | **1 hour** |
| **Implementing message flow security** | * Implement message-level security in a message flow * Define the differences between administration security, application security, and message transport security * Reference security profiles in security- enabled message processing nodes * Exercise: Implementing message flow   security | **2 hours** |
| **Day 6** | | |
| **Managing the workload** | * Describe the workload management options for adjusting the speed with   which messages are processed, and | **30 mins** |

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|  | controlling the actions that are taken on unresponsive flows and threads   * Use a workload management policy to control the workload management   attributes at run time |  |
| **Monitoring message flow events** | * Define monitoring events in the message flow * Use the record and replay function to capture and review processed messages * Exercise: Implementing business   transaction monitoring | **2 hour** |
| **Break** | | **15 mins** |
| **Creating patterns for reusability** | * Construct and extend a user-defined pattern * Create a pattern authoring project * Build pattern plug-ins * Package and distribute pattern plug-ins * Install a pattern archive * Exercise: Implementing a pattern | **2 hour** |
| **Lunch and Prayer Break** | | **1 hour** |
| **Creating a runtime-aware message flow** | * Add a user-defined property to a message flow * Promote sub-flow properties to the main flow * Define custom keywords * Set configurable properties in the BAR file View BAR file properties at run   time | **1 hour** |
| **Break** | | **15 mins** |
| **Case Studies** | * Developing Reusable components * SAF (Store & Forward) Implementation * Synchronous vs Asynchronous message processing * Notification framework | **30 min** |
| **Course Summary & feedback** | * Summary of the Course * References and Documentation * feedback session | **30 min** |