ProTech Professional Technical Services, Inc.

IBM MQ Advanced Application Programming

Course Summary

Description

This course is designed to provide the skills necessary to extend the basic knowledge of the Application Programming Interface (API) provided by IBM MQ. This includes complete coverage of some of the more advanced functions found within IBM MQ from ReplyToQ processing to Publish and Subscribe.

Objectives

At the end of this course, students will be able to:

- Describe, code and better understand Report message processing.
- Describe, code and fully understand ReplyToQ processing.
- Describe, code and fully understand Dynamic queue processing.
- Describe, code and understand Distribution list or Namelist processing.

Topics

- Introduction
- Advanced Client/Server Application Processing
- Recovery Processing
- Multiple Queue Processes
- Publish and Subscribe Functions

Audience

This course is intended for information systems personnel who have experience in the development of IBM MQ applications and desire more advanced skills.

Prerequisites

It is highly recommended that students have the following knowledge and skills: Attended IBM MQ Application Programming course (or equivalent knowledge) plus at least 4 months experience, at least 1 year of application programming experience with Cobol or C/C++ and at least a general knowledge of operating system environments in use.

Duration

Three and one half days

Course Outline

I. *Introduction*
    A. IBM MQ Object Review
        1. Queues Managers and Queues
        2. Default Queues and Attributes
        3. Local and Remote Queues
    B. IBM MQ Client Applications
        1. Requirements for Implementation
        2. Programming Considerations
    C. Connection Specifications
        1. Connection to a Queue Manager
        2. Structure (MQCNO) For MQCONNX Call
        3. MQCONNX Call and Usage Considerations
    D. Report Message Processing
        1. Requesting Application Processing
        2. Receiving Application Processing
    E. Review Quiz and Workshop

II. *Advanced Client/Server Application Processing*
    A. IBM MQ Object Review
        1. Model Queues
        2. Queue Manager Alias Definition
    B. Model and Dynamic Queues
        1. Creation of Dynamic Queues
        2. Elimination of Dynamic Queues
        3. Considerations for Distributed Queue Managers
    C. Reply-To Queues
        1. Requesting Application Processing
        2. Receiving Application Processing
        3. Working with Unique and Common ReplyToQ Processes
        4. Working with Dynamic Queues and Queue Manager Aliasing
    D. MQINQ and MQSET Attributes and Calls
        1. Common plus Local Queue Attributes
        2. Attributes for Other Queue Types
        3. MQINQ Call Coding
        4. MQSET Call Coding
        5. Review Quiz and Workshop

III. *Recovery Processing*
    A. Recovery Processing
        1. Considerations for System Logging
        2. Considerations for Application Processing
    B. Db2 and RRSAF Processing
        1. RS Overview
        2. Special Db2 Calls to Support RRS and MQ
    C. Control of IBM MQ Unit of Work
        1. Structure (MQBO) for MQBEGIN Call
        2. MQBEGIN Call and Usage Considerations

D. Data Synchronization Functions
    1. Processing Persistent Messages
    2. Processing Messages with Syncpoint
    3. MQBACK Call and Usage Considerations
    4. MQCMIT Call and Usage Considerations
    5. Working with Backout Requeue Process
    6. Working with IBM MQ Clients
E. Review Quiz and Workshop

IV. *Multiple Queue Processes*
    A. Opening with a Distribution List
        1. Extensions to MQOD Structure
        2. Building of MQORs and MQRRs
        3. MQOPEN Call and Usage Considerations
    B. Processing with a Distribution List
        1. Extensions to MQPMO Structure
        2. Building of MQPMRs and MQRRs
        3. MQDH Structure and its Usage
        4. MQPUT or MQPUT1 Calls and Usage Considerations
    C. Workshop for Distribution List Processing
    D. Message Group and Segmentation Processing
        1. Definition of Message Groups and Segments
        2. Extensions to MQMD and MQGMO Structures
        3. MQMDE Structure and its Usage
        4. Building Application Processing and Considerations
        5. Receiving Application Processing and Considerations
    E. Workshop for Message Groups Processing

V. *Publish and Subscribe Functions*
    A. Publish and Subscribe Processing
        1. Definition of Publish and Subscribe Facilities
        2. Building Application Processing and Considerations
        3. Receiving Application Processing and Considerations
    B. Review Quiz
    C. Workshop for Publish and Subscribe