Technical Introduction to IBM WebSphere MQ

Course Summary

Description

This course is designed to provide technical information for information managers, developers and architects. This class explains what middleware is and the characteristics of MQ. It shows the role MQ plays on the world of electronic business, SOA and ESB. The relationship of WMQ to application servers and multi-tiers applications and processes is highlighted.

The major components of WMQ will be described. The main application interface MQI will be discussed in details. Other application interfaces particularly JMS will be discussed.

The WMQ interfaces to other system components are shown: major ones are system management, databases, security and transactional co-ordinations.

Three common platforms will be covered so students will know their concepts and structure. Much emphasis is given to the connection of multiple queue managers and the control of recovery of channels.

This course covers materials that are required for taking IBM’s certification.

Topics

- WMQ Architecture
- WMQ Structure and Components
- Operation
- System Administration
- WMQ Application Interface (MQI)
- Recovery and Restart
- Triggering
- Security
- Publish and Subscribe
- Review Questions

Audience

This course is designed for MQSeries System Managers, Architects, Application Designers and System Programmers who interact with WMQ.

Class size is limit to 20 students per class

Note

The course described three separate platforms.

Class size is limit to 14 students per class

Prerequisites

Students must have experience in one of the three operating systems, one of OS/390, UNIX (Linux, AIX, HP or SUN Solaris), or Windows (2000, 2003 or XP).

Knowledge of databases or transaction management is desirable.

Duration

One day
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Course Outline

Module 1  IBM MQSeries Concepts
- Message Structure
- Queue Manager
- Queue
- Other MQ objects
  Quiz 1

Module 2  IBM's MQSeries Structure
- Components of MQSeries for OS/390, UNIX and Windows
- Distributed MQSeries intercommunication
- MQ Client
- Relationship to Databases and Transaction Managers (CICS, IMS, MTS)
  Quiz 2

Module 3  Installation and Customization
- OS/390 - subsystem, BSDS, Logs and PageSets
- Distributed Platforms – Installation, Create QMGR, Logs, Directories
  Libraries
- OS/390 - ZPARM, XPARM, procedures
- Distributed Platforms – Parameters, queue manager options
- Other system processes
  Quiz 3
  Quiz 4
  Exercise 1 (Create a queue manager)

Module 4  Operation and Administration
- OS/390 – console commands, ISPF panels and utilities
- Distributed Platforms – System Commands, MQ System Commands
- NT MMC
- PCF Commands
- Manage MQ Objects- Define, Display and Alter
  Procedures
  Quiz 5
  Exercise 2 (Use NT system commands and MQ system commands)

Module 5  Naming Convention
- Queue Manager
- Predefined Queues
- Dynamic Queues
- Transmission Queue
- Alias Queue
- Channels
- Queue Manager Alias
- Process
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Course Outline (cont’d)

Module 6  MQI structure
MQ calls
Local and remote calls
Request/Reply mode
Triggering
Quiz 6
Exercise 2  (Running Sample Programs 1)
Exercise 3  (Setting up triggering environment)

Module 7  Intersystem Communication
Channels
Components
Controlling and Recovery
Remote Queuing
MQ Client
Exits
Quiz 7
Exercise 4  (Setting up Connections)
Exercise 5  (Running Sample Programs 2)
Exercise 6  (Setting up MQ Clients)

Module 8  Recovery and Restart
Backup System Objects
Backup Application Objects
Coordination with Databases and CICS
Re-creating Objects
Quiz 8
Exercise 7  (Running Recovery Utilities)

Module 9  Clustering
Architecture
Components
Setup
Workload Exit
Quiz 9
Exercise 8  (Setting up a Cluster)

Module 10  Monitoring and Performance
Components
Events
SMF
Vendor Products
Home Grown
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Course Outline (cont’d)

Module 11  Security
Architecture
OS/390 External Security Manager
UNIX/NT/OAM
Firewall
Application
End-to-end
Quiz 10

Module 12  Problem Determination
OS/390 - SMF, Console Log, Logrec, Dumps
Distributed Platforms - Error FFST, Trace,
System Levels
Quiz 11
Exercise 9 (Look at sample Traces)

There are test questions after each Module. These are similar to IBM’s certification questions and prepare students for the test. Hands-on lab exercises are provided and may be restricted to certain platforms due to availability of resources. However all students would benefit from the exercises.