



## **WT1717 Technical Introduction to WebSphere MQ v7 1 day**

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This is a one day technical overview of the functions available in the IBM WebSphere MQ V7 product on all platforms. This course is a prerequisite for other administration and programming courses. This course is lecture-based with some optional demonstrations and end of unit checkpoints.

### **Topics**

- Distributed queuing
- MQI Programming
- WebSphere MQ Security
- System Management
- Other communication styles and functional comparison of MQ with them.

### **What you will learn**

At the completion of this course, the student should be able to:

- Describe the functions and facilities of WebSphere MQ
- Compare messaging and queuing to other communication styles
- Understand the application programming API (MQI) and Java interfaces
- Understand at a high level the systems management requirement
- Understand WebSphere MQ security

### **Audience**

WebSphere MQ system administrators, WebSphere MQ application programmers, and technical people considering WebSphere MQ.

### **Prerequisites**

None.

### **Duration**

One day.



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## 1 day

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### 1. Course Outline

- Course Description

### 2. Messaging Concepts

- Section: Outline
- Concepts and Definitions
- Time Independence
- WMQ: MQI calls
- WMQ: Sample MQI calls
- Messaging Applications Design Asynchronous Model
- Synchronous Model: Closed Loop Design
- Asynchronous Model: Request/Reply
- Publish/Subscribe Messaging Model
- WMQ Message
- Parallel Processing
- Requester/Server Implementation
- WMQ Objects
- WMQ Queue Types
- WMQ Triggering
- WMQ Client
- WMQ Client/Server Implementations
- Local/Remote Message Delivery
- Local and Remote Queues
- Distributed Logical Unit of Work
- WMQ Supported Platforms

### 3. The Message Queue Interface (MQI)

- Section: Outline
- Accessing WMQ from Applications
- WMQ MQI-Supported Languages
- Preparing MQI Application Programs
- WebSphere MQ MQI: Procedural Calls
- Notation
- WMQ Program: Structure
- WMQ Program: Sample Logic Flow
- MQCONN/MQCONNX Calls
- MQDISC Call
- MQOPEN Call
- Shared and Exclusive Access
- MQCLOSE Call
- MQPUT Call



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- MQPUT1 Call
- MQGET Call
- MQGET Message Options
- Retrieval in FIFO Order
- MQINQ/MQSET Call
- Publish/Subscribe Calls
- Message Selectors
- The Message Descriptor
- Fields in the Message Descriptor
- Message Persistence
- Message Priority
- Message and Correlation Identifiers
- Message Retrieval Using MsgID/CorrelID
- Accessing Remote Queues
- Application Use of Remote Queues
- Report Messages
- Message Expiry
- Message Groups
- Message Segmentation
- Distribution Lists
- WebSphere MQ and Java Native Classes
- WebSphere MQ and JMS
- Checkpoint

### 4. WebSphere MQ System Administration

- Section: Outline
- WMQ Administration Tasks
- WMQ Installation
- WMQ Administration: Code Bases
- WMQ Administrative Interfaces
- Basic WMQ Administration Tasks
- Customizing the Queue Manager
- Logging and Recovery
- Checkpoint

### 5. Interconnected Systems: DQM

- Section: Outline
- Distributed Queue Management (DQM)
- DQM Components
- MCA: Pairs
- Defining Channels
- MCA: Types
- Message Concentration
- Message Segregation



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- Multiple Hops
- Using a Message Router
- Channel Exits
- DQM: A Complete Picture
- Application Data Conversion
- WebSphere MQ Clusters
- WMQ Clusters: Simple Cluster
- WMQ Clusters: Workload Balancing
- WMQ Clusters: Benefits
- WMQ for z/OS: QSG
- WMQ Publish/Subscribe
- Checkpoint

### 6. Transactional Support

- Section: Outline
- Unit of Work
- Resource Manager
- Transaction Manager
- WMQ Local Resources
- WMQ + Global Resources
- External Coordination of Global Units of Work

### 7. WMQ SECURITY

- Section: Outline
- Security Goals
- Security Services
- Implementing WMQ Security
- Security Implementation in WMQ
- WMQ API Access Control
- WMQ Command Security
- Source of WMQ User Identification
- WMQ Message Context
- WMQ Security Issues Example
- Channel (MCA) Security
- MCA Security Exits
- WMQ Security Support: Summary
- Checkpoint

### 8. WMQ and Enterprise Application Integration

- Section: Outline
- WMQ z/OS Connectivity Solutions
- Accessing IMS Applications via WMQ
- Accessing IMS Applications via WMQ



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- Accessing CICS/TS Applications on z/OS via WMQ
- WebSphere MQ Transport for SOAP
- WMQ Transport for SOAP: CICS Sample
- WMQ Support for XMS
- WMQ and Enterprise Application Integration
- WebSphere Message Broker V6.1 (WMB)
- WMB: Message Transformation
- WMB: Message Routing
- WMB: Functional View
- WMB Components