**I Queue Manager:**

A **Queue Manager** is the central component in IBM MQ that manages queues and handles message routing, storage, and delivery. It ensures messages are reliably transferred between applications.

* It controls access to queues.
* Manages message persistence and transactions.
* Can host multiple queues and channels.

**II Queue:**

A **Queue** is a storage location within a queue manager where messages are held until they are retrieved by an application.

Types of queues:

* **Local Queue**: Stores messages for applications to retrieve.
* **Remote Queue**: Represents a queue on another queue manager.
* **Transmission Queue**: Used for sending messages to remote queue managers.
* **Dead Letter Queue**: Stores undeliverable messages.

**III Channel:**

A **Channel** is a communication link between two queue managers or between a queue manager and a client.

Types:

* **Sender (SDR)** / **Receiver (RCVR)**: Used for queue manager-to-queue manager communication.
* **Server Connection (SVRCONN)**: Used for client applications to connect to the queue manager.
* **Cluster Sender/Receiver**: Used in MQ clustering.

**IV Listener:**

A **Listener** is a process that listens for incoming network connections on a specific port and starts the appropriate channel.

* Typically listens on port **1414** (default).
* Can be started manually or automatically.

I **Triggering:**

In **IBM MQ**, the **triggering concept** is a powerful mechanism that allows **automatic invocation of applications** when certain conditions are met on a queue. This helps in building **event-driven architectures** and improves resource efficiency by avoiding constant polling.

Def: **Triggering** enables MQ to **start an application** (or process) automatically when a message arrives on a queue or meets specific criteria.

**How Triggering Works:**

 **Trigger Control on the Queue**  
Enables triggering and defines when it should occur.

 **Trigger Monitor**  
A background process that listens for trigger events and starts the specified application.

 **Process Definition**  
Specifies the application to be started when a trigger event occurs.

**IMP Triggering Parameters on a Queue:**

DEFINE QLOCAL(MYQUEUE) +

       TRIGGER +

       TRIGTYPE(FIRST) +

       TRIGMPRI(0) +

       TRIGDATA('StartMyApp') +

       PROCESS(MYPROCESS) +

       INITQ(SYSTEM.DEFAULT.INITIATION.QUEUE)

**Benefits of Triggering**

* Reduces polling and improves efficiency.
* Enables event-driven processing.
* Automates application startup based on message arrival.