Enterprise Java

Message Driven Beans :-

How to create :-

➡ New Project -> Java with Ant -> Java Enterprise -> name(EJBMsg5App) -> Finish

➡ For JMS Connection Factories and Destination Resources :-

- In apache netbeans 25 -> services -> payra server -> Right click -> View Domain Admin console(Firstly Payara Server is running mode) -> http://localhost:4848/common/index.jsf (this open)

- In Payra server Domain Admin Console -> JMS Resources -> Destination Resources -> New -> JNDI name(queue) -> Physical Destination Name -> same as JNDI name(queue) -> Resource Type -> Jakarta.jms.Queue -> OK

- In Payra server Domain Admin Console -> JMS Resources -> Destination Resources -> New -> JNDI name(topic) -> Physical Destination Name -> same as JNDI name(topic) -> Resource Type -> Jakarta.jms.topic -> OK

- In Payra server Domain Admin Console -> JMS Resources -> Connection Factories -> New -> JNDI Name(queueFactory) -> Resource Type -> Jakarta.jms.QueueConnectionFactory -> OK

- In Payra server Domain Admin Console -> JMS Resources -> Connection Factories -> New -> JNDI Name(topicFactory) -> Resource Type -> Jakarta.jms.TopicConnectionFactory -> OK

➡ In apche Netbeans 25 -> Sources Packages -> new Message-Driven Bean -> Name of Message-Driven Bean(FirstQueueBean) -> give proper Package name -> Server Destinations -> For Topic select jms/topic or For Queue

select jms/queue -> Next -> destinationType -> For Topic select TOPIC or For Queue select QUEUE

What is a Message-Driven Bean (MDB)?

- An **MDB** is a special type of EJB that listens to a **JMS (Java Message Service) destination** → either a **Queue** (point-to-point) or a **Topic** (publish/subscribe).

- MDB automatically gets triggered when a message is sent to that queue/topic.

Why we need Payara Server resources & factories?

Because MDB itself cannot create or manage queues/topics. The server (Payara) must provide them.

1. **JMS Connection Factory**

   o A factory object used by MDB (or any client) to create connections to the JMS provider.

   o Think of it as a **gateway** to talk to the JMS system.

   o Without it, MDB won't know how to connect.

2. **JMS Destination (Queue/Topic)**

   o The **actual channel** where messages will be sent and received.

   o MDB listens on this queue/topic.

So in short:

- **Factory** → tells Payara how to connect to JMS (like a bridge).

- **Destination (Queue/Topic)** → mailbox where messages wait.

- **MDB** → automatic consumer that wakes up when a message arrives.