YoYo Manufacture Simulator
Important Notes

1. The simulator (YoYoSim) writes the data listed in the list box to a Message Queue on the server entered in the appropriate text box. **Message Queuing must be enabled on the server, and a private queue called "YoYo" must be created on the server.**
2. The simulator represents a physical plant or location called a Work Area, and each Work Area may have many production lines. You may choose the name of the Work Area for easy identification.
3. More than one simulator can be run at one time, and multiple simulators can write to the same queue safely.
4. The following table indicates the various states that the yoyo may be in during the manufacturing process:

State	Description
MOLD	In the Mold process
QUEUE_INSPECTION_1	On the conveyor to inspection station 1
INSPECTION_1	At inspection station 1
INSPECTION_1_SCRAP	In scrap (end of process for that particular yoyo)
QUEUE_PAINT	On the conveyor to the paint process
PAINT	In the paint process
QUEUE_INSPECTION_2	On the conveyor to inspection station 2
INSPECTION_2	At inspection station 2
INSPECTION_2_REWORK	Being reworked and sent back to paint
INSPECTION_2_SCRAP	In scrap (end of process for that particular yoyo)
QUEUE_ASSEMBLY	On the conveyor to the assembly process
ASSEMBLY	In the assembly process
QUEUE_INSPECTION_3	On the conveyor to inspection station 3
INSPECTION_3	At inspection station 3
INSPECTION_3_REWORK	Being reworked and sent back to assembly
INSPECTION_3_SCRAP	In scrap (end of process for that particular yoyo)
PACKAGE	In package (end of process for a good yoyo)

5. The times that are reported indicate the time the yoyo entered the particular state.
6. If the yoyo is in a state of SCRAP or REWORK, the reason is provided according to the original specifications.
7. Only the last 25 state changes are shown in the list box, with the most recent at the top.
8. The SampleQueueReader is provided (with source code) to demonstrate two ways to read the queue – synchronously and asynchronously. It will provide you with a way to access the data from the queue so you may add your own mechanism to read the data from the queue, and write it to your database.

9. The data elements in the message are:

Element	Description
Work Area	The work area that was identified in the simulator.
Serial Number	The GUID assigned to the YoYo, guaranteed to be globally unique.
Line	Identifies line, by number, based on the number of lines requested in the simulator. The name is a concatenation of "Line" and the line number.
State	The current status of the YoYo, as determined by its position in the manufacturing process.
Reason	The reason for rejection (Scrap or Rework). If the yoyo is not rejected, this field is empty.
Date/Time Stamp	The date and time of the entry into the current state.
Product ID	A number identifying the product being created, as per the table below.

10. The ProductID is provided that identifies the YoYo type being produced as per the following chart:

ProductID	Description
1	Original Sleeper
2	Black Beauty
3	Firecracker
4	Lemon Yellow
5	Midnight Blue
6	Screaming Orange
7	Gold Glitter
8	White Lightening