

Name: \_\_\_\_\_

Date: \_\_\_\_\_  
Year Month Day

RSLinx Ethernet/IP: \_\_\_\_\_

**Assembler LAB 1 – Purposes: The student will learn to:**

1. Become familiar with FactoryIO Simulation Software
2. Connect the Simulation to a Rockwell PLC
3. Create a basic PLC program to move the simulated object as per the stated requirements.
4. Design while keeping in mind that there will be future additions to equipment and functionality.

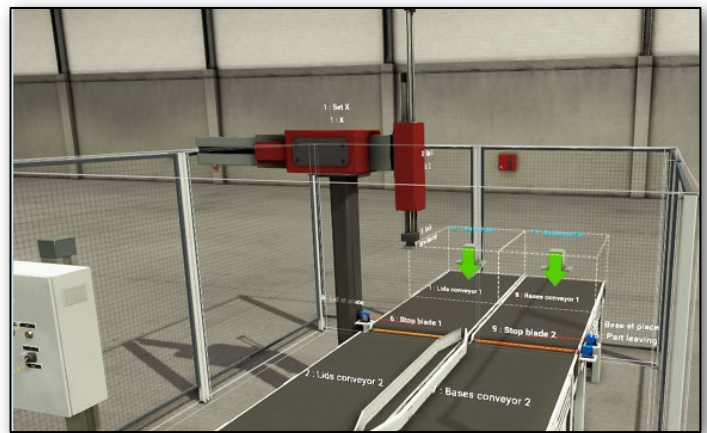
**Required:**

**Deliverables:**

- Successful demonstration of the basic Automatic Operation
- Copy of Documented PLC Code

**Other Specifications:**

- Watch video
- Load Scene
- Follow instructions to create working program that matches video
- Create Controller Tags to communicate with the Simulation
- Create Local Tags to match the Input / Output Descriptions from Factoryio
- **Do not move, delete or add components, change timing or forces or otherwise alter the equipment.**



Assembler Scene

Note: You may remove the guarding to make it easy to work with the simulation.

**Future Considerations:**

- This will be followed up in subsequent labs so you should keep in mind what it will take to add Modes of operation for Assembler - Lab 2 ( ie: Auto / Manual )
- This project will be used for a two station networking exercise in Assembler -Lab 3.
- Add Sensor Detection to only Assemble Matched Pairs

Lab is due \_\_\_\_\_

Assembler LAB 1 – Additional Information:

Do not alter the standard scene input and output configuration.  
Change the IP Address to match your PLC.

The screenshot displays the FactoryIO configuration interface. It features a central control panel with a host IP address of 192.168.1.45 and is powered by INGEAR. The interface is divided into three main sections: SENSORS, ACTUATORS, and a central control area.

**SENSORS:**

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- 
- Auto
- Base at place
- Base clamped
- Emergency stop
- FACTORY I/O (Paused)
- FACTORY I/O (Reset)
- FACTORY I/O (Running)
- FACTORY I/O (Time Scale)
- Item detected
- Lid at place
- Lid clamped
- Manual
- Moving X
- Moving Z
- Part leaving
- Pos. at limit (bases)
- Pos. at limit (lids)
- Reset
- Start
- Stop

**ACTUATORS:**

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- 
- 
- 
- Bases conveyor
- Bases emitter
- Clamp base
- Clamp lid
- Counter
- FACTORY I/O (Camera Position)
- FACTORY I/O (Pause)
- FACTORY I/O (Reset)
- FACTORY I/O (Run)
- Grab
- Lids conveyor
- Lids emitter
- Move X
- Move Z
- Pos. raise (bases)
- Pos. raise (lids)
- Remover 1
- Remover 2
- Reset light
- Start light
- Stop light

**Central Control Panel:**

Host: 192.168.1.45

Moving X	BOOL_IN_0	BOOL_OUT_0	Move X
Moving Z	BOOL_IN_1	BOOL_OUT_1	Move Z
Item detected	BOOL_IN_2	BOOL_OUT_2	Grab
Lid at place	BOOL_IN_3	BOOL_OUT_3	Lids conveyor
Lid clamped	BOOL_IN_4	BOOL_OUT_4	Clamp lid
Pos. at limit (lids)	BOOL_IN_5	BOOL_OUT_5	Pos. raise (lids)
Base at place	BOOL_IN_6	BOOL_OUT_6	Bases conveyor
Base clamped	BOOL_IN_7	BOOL_OUT_7	Clamp base
Pos. at limit (bases)	BOOL_IN_8	BOOL_OUT_8	Pos. raise (bases)
Part leaving	BOOL_IN_9	BOOL_OUT_9	Start light
Start	BOOL_IN_10	BOOL_OUT_10	Reset light
Reset	BOOL_IN_11	BOOL_OUT_11	Stop light
Stop	BOOL_IN_12	INT_OUT_0	Counter
Emergency stop	BOOL_IN_13		
Auto	BOOL_IN_14		
FACTORY I/O (Running)	BOOL_IN_15		

Powered by INGEAR  
www.ingeardrivers.com

Standard Assembler Configuration