JACOBS UNIVERSITY

CO-582-A
Process Modelling and Simulation
Instructor: Prof. Dr. Yilmaz Uygun

Washing_machine_group 12

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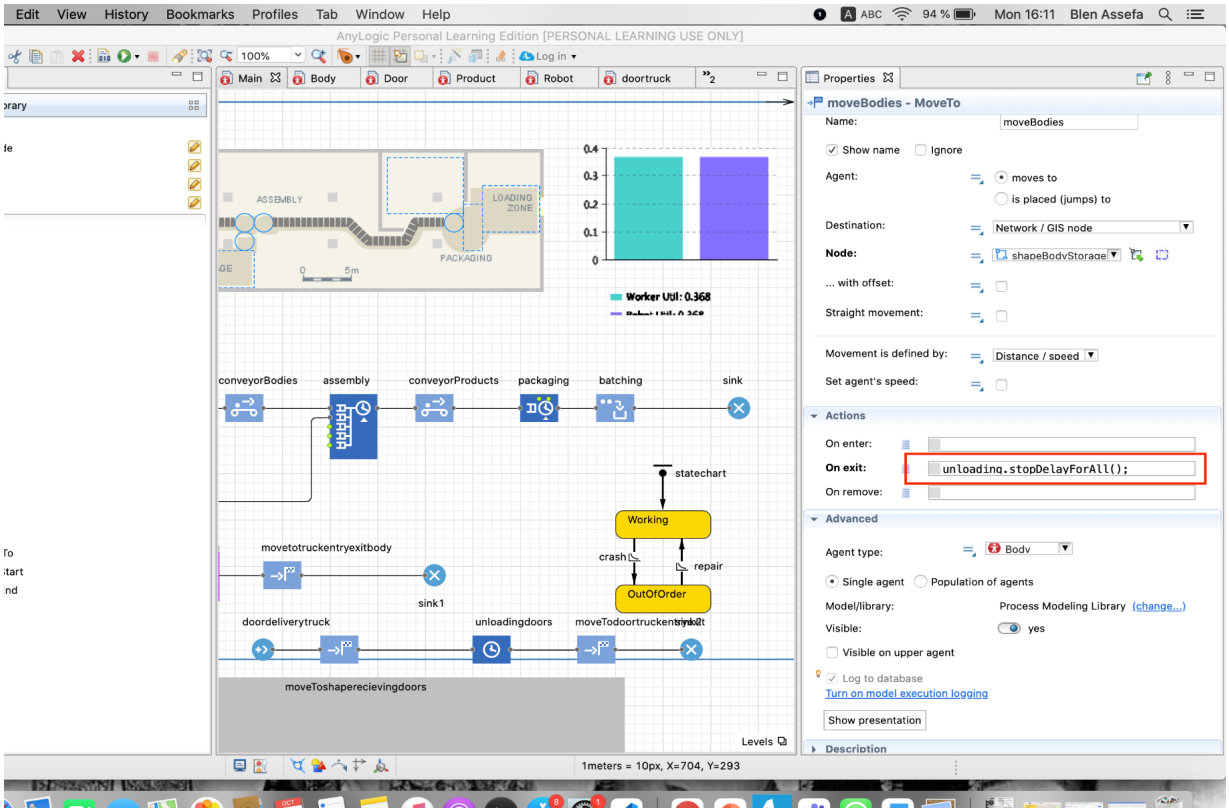
Introduction

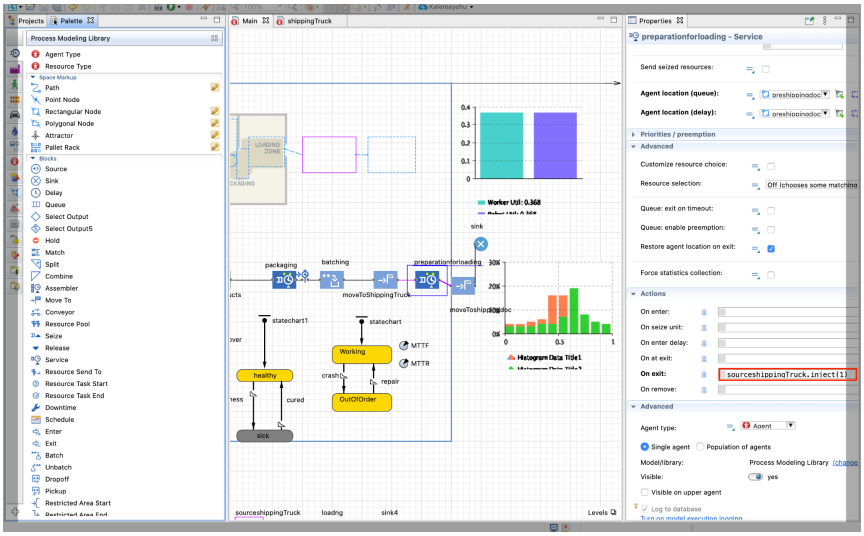
The goal of this model is to present an accurate and real-life scenario-based representation of a washing machine manufacturing plant, through carefully examining parameters and adding more necessary components.

1. A separate body delivery truck and door truck have been added to the model. The flowcharts for each of these were connected to the main flowchart by using the inject and stop delay functions on the respective delay and move to blocks.



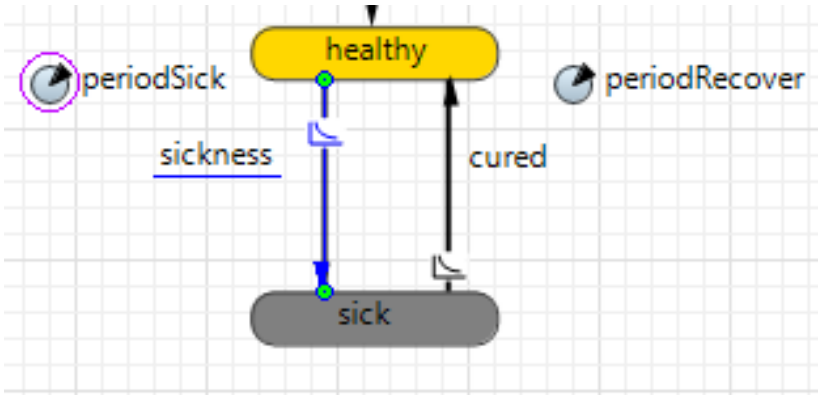
Task 2

- For the shipping truck, we decided to create the agent shippingtruck.
- As for the flow chart of the truck, it had three parts, the source, the delay, and the sink.
- And now in our service pallete from the main model named “ preparation for loading”, we write the inject funiction for the shipping truck.

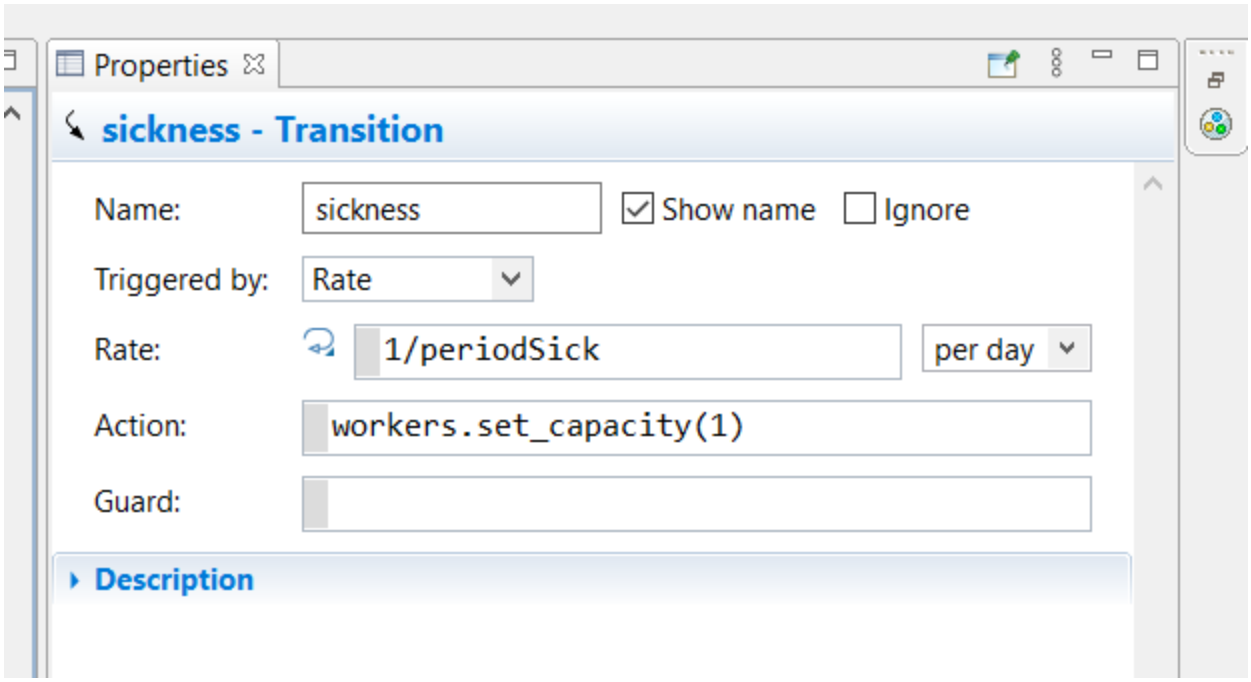


Task 3

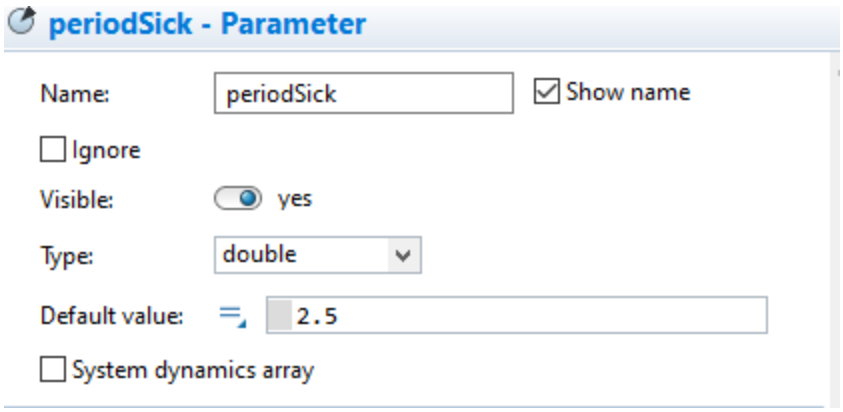
The task conditions say that such properties as illness and recovery should be added to the employee. In order to create them, we created 2 states - healthy and ill. The state chart points to the “healthy” state. Two states have periods, we added two time periods for being ill and recovering. To connect two states, a transition stick is used with pointers to two time periods.



Sickness and cured transition sticks have rate of change equal to 1/periodSick and 1/periodRecover respectively.

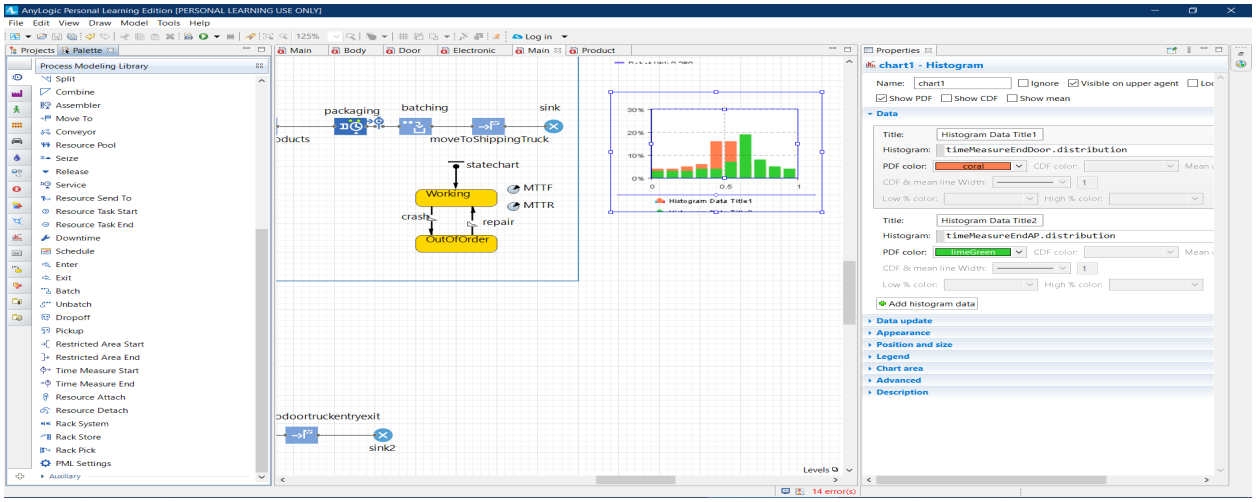


2.5 days is the condition given by the task.



Task 4

In this challenge, we added cycle time for door storage and assembly-packaging area and showed in Histogram.



Task5

Here, We are adding the new component to the washing machine called “Electronic” and merging it to assembly node 3 called “nodeQE”. Also, We added a delivery Truck for delivering Electronic into the factory respectively receiving dock.