



Report - Assignment 01

Modern Topics in IT (IT4020)
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SYSTEM OVERVIEW DIAGRAM

There are 4 producer(publisher) components and 1 consumer (Subscriber) components.

❖ Producers

- Room Sensor
- Deep Freezer
- Garage Service
- Smart Refrigerator

❖ Consumer: - Mobile App

The user can receive notifications to the Mobile App (Subscriber) regarding different states about those Producers(publisher).

Examples: -

- ❖ When getting the items (Coke Bottles/ Eggs/ Ice-creams/ Milk Bottles) from refrigerator and adding items to the refrigerator, it will be notified by using the mobile app.
- ❖ Deep freezer will inform the user about the items that he intends to put inside and inform the person about where should it stored, according to the temperature levels.
- ❖ Room Sensor will identify the authorized people that have the right code to enter the room.
- ❖ Garage system will inform how many cars that can be parked inside the garage at given time and available slots

Function Diagram

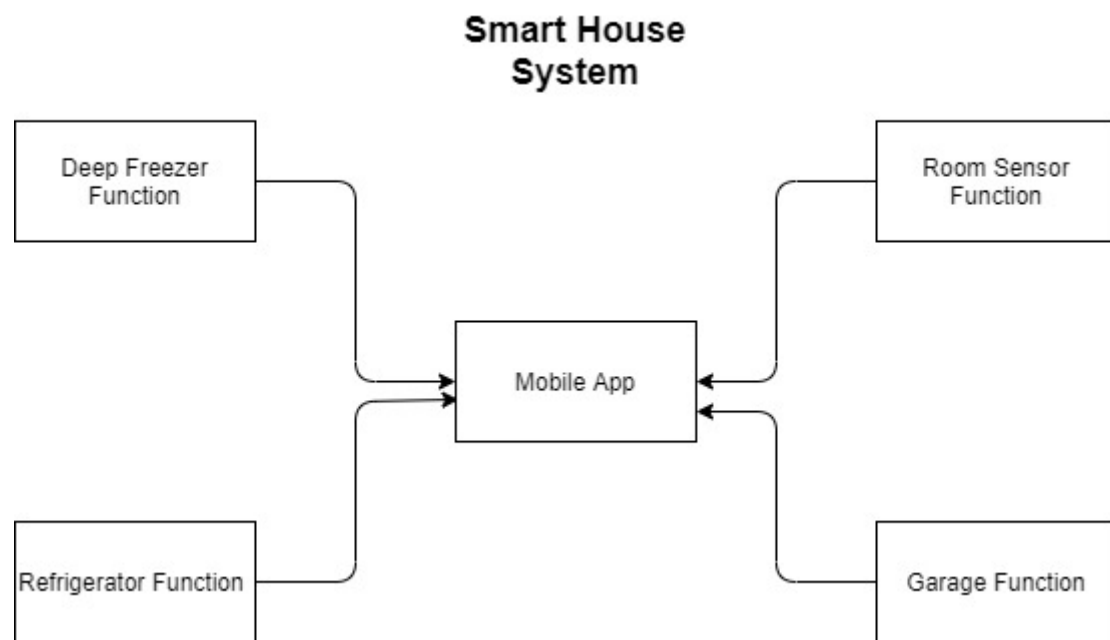


Figure 1 Diagram

SCENARIO EXPLANATION

1) Scenario 1– RoomSensor

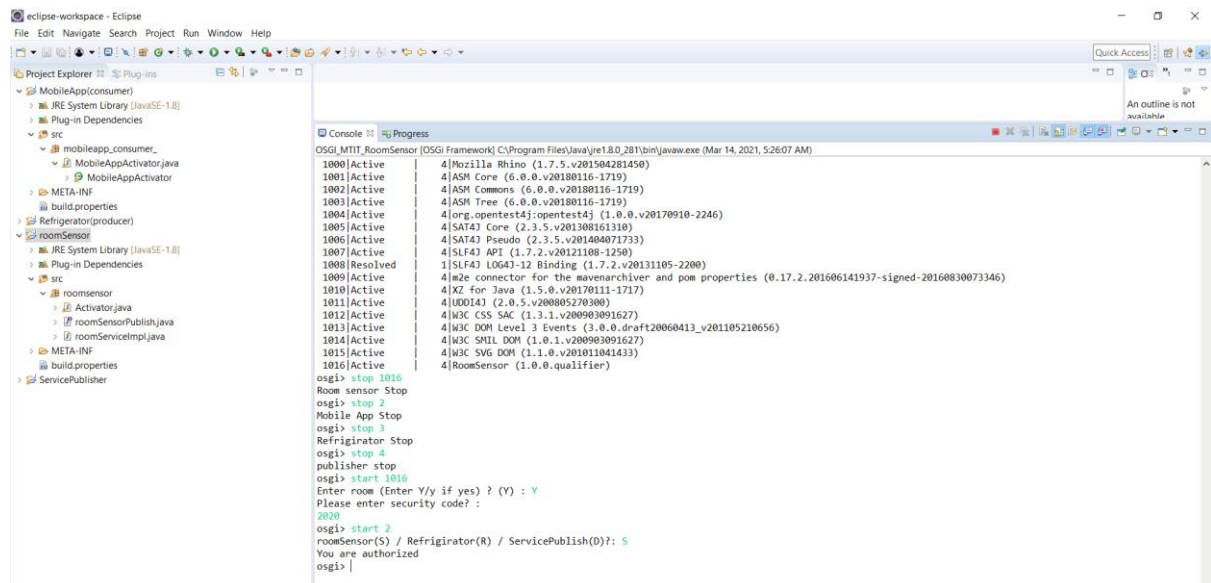


Figure 2 picture

- This program is about a smart lock that allows only authorized users to enter the house.
- As the initial step systems ask whether the user wants to enter the building.
- If “Y/y” (yes) is entered the system user can go to the code entering interface or if any other letter is entered it will exit.
- If “Y/y” is entered the system will ask for the security code.
- If the user enters the correct security code he will be authorized, and a message will be printed saying “You are authorized”
- If the user enters the incorrect security code the system will output “You are not authorized” and ask for the code again.

2) Scenario 2– DeepFreezer

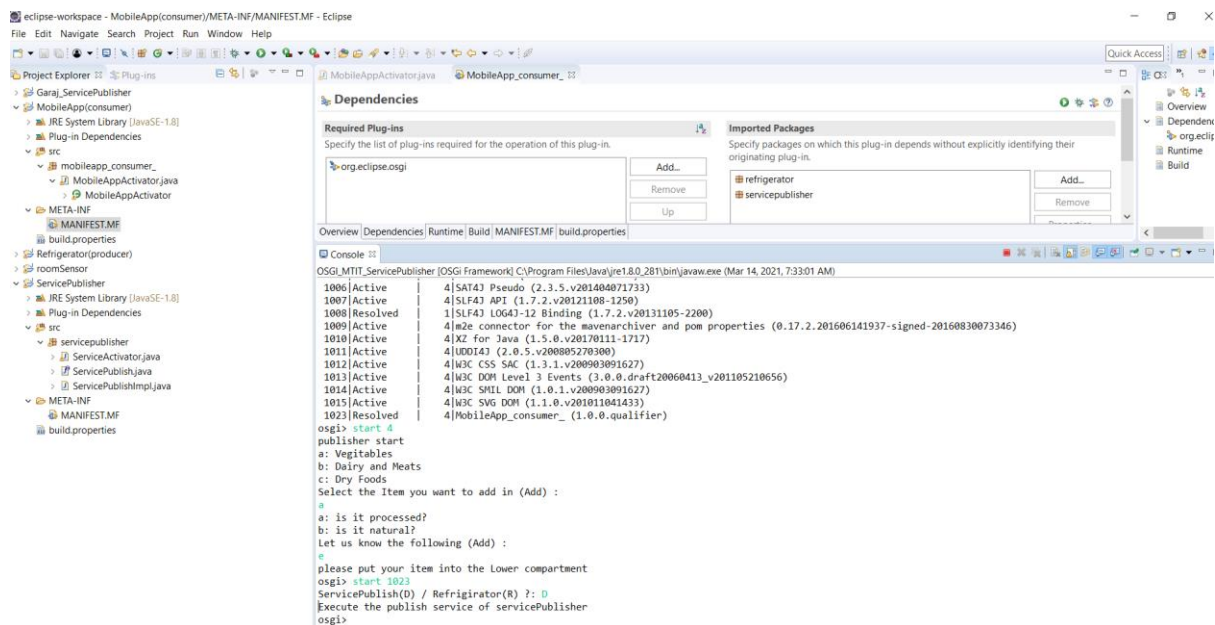


Figure 3 picture

- Following program elaborate about a smart deep freezer system, where it shows the user to choose the compartment options to put the goods in.
- Initially system asks the user to select the items from (vegetables/meats and dry food).
- User gets to select the desired item that he's willing to put inside.
- After that system asks about whether the item is processed or natural.
- Once the user selects whether the item is natural or processed, deep freezer will tell what compartment to put their foods in
- System will inform user to use the correct compartment according to the food user puts in
- Finally, user gets a notification about the information on which compartment that they should use.

3) Scenario 3– Garage Service

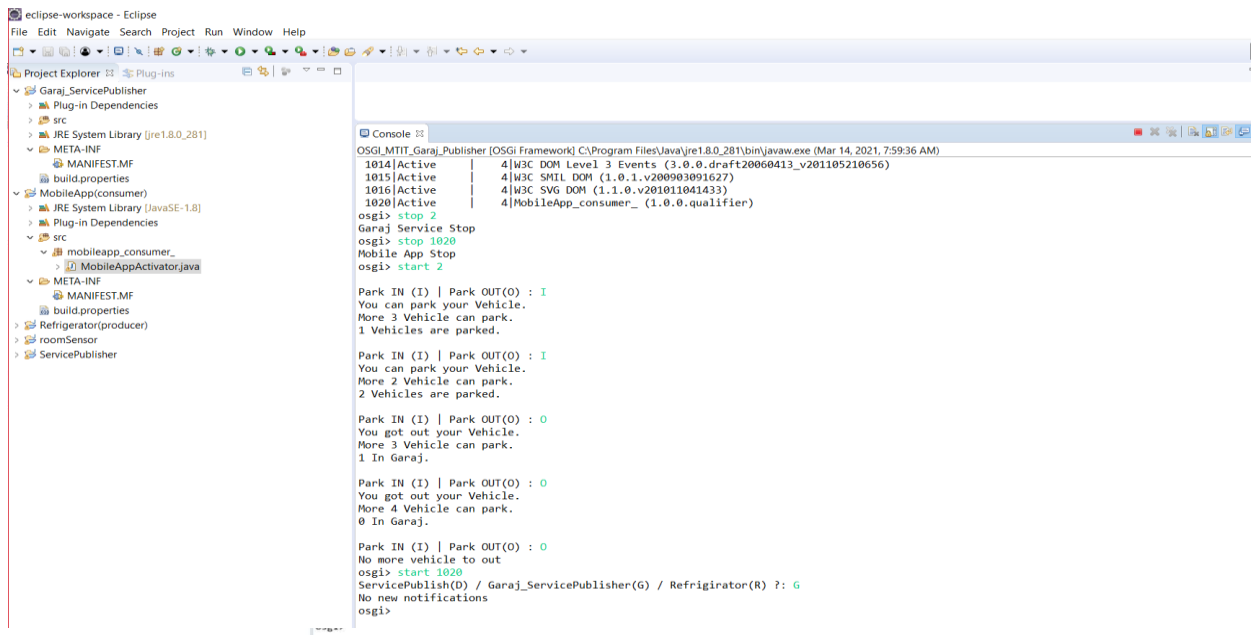


Figure 4 picture

- Following program is about smart garage which shows the details about garage.
- Initially system ask, “You are going In or Out.”
- User can select the options what he is going to do.
- Then system will display the Number of available slots and parked slots.
- When vehicles come into the garage and going out from the garage system will automatically calculate the parked slots and available slots.
- If user try to enter wrong input, system will ask again to enter the right input.
- If user try to enter the car in the garage when it is full system inform to user, “Limit is up” and terminate the program.
- Also, there are not any vehicles in park if user try to go out, system inform to user “No vehicle in the garage.”

SCREENSHOTS OF MANIFEST FILES

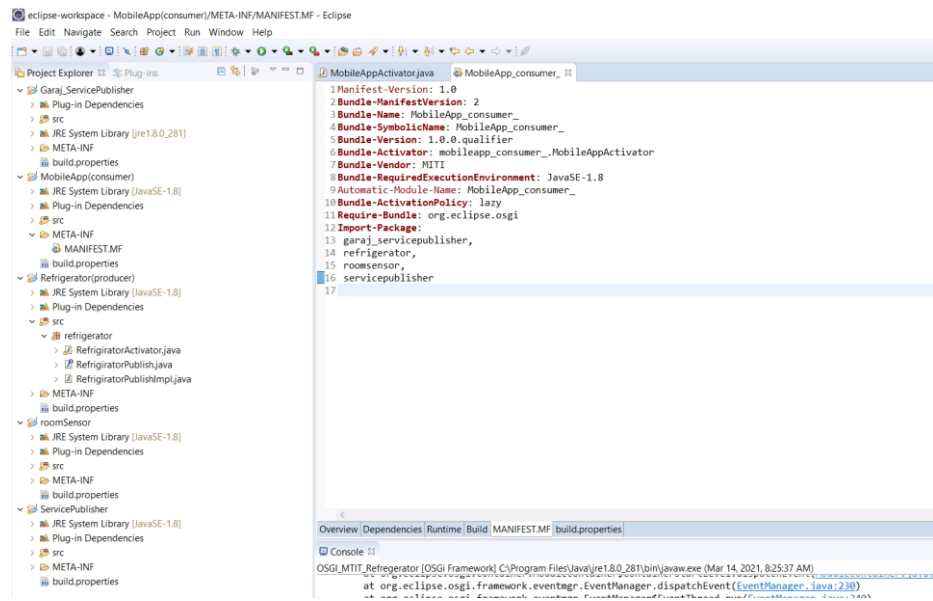


Figure 6 picture

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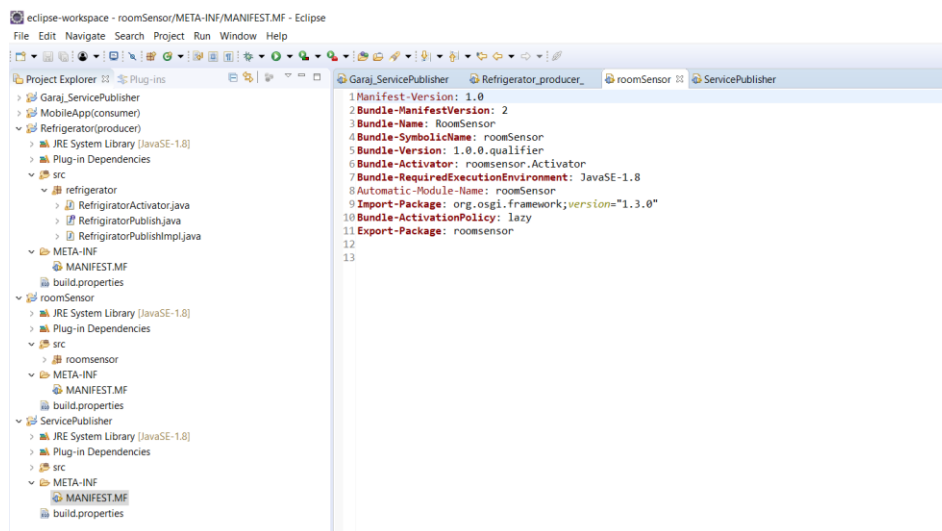


Figure 7 picture

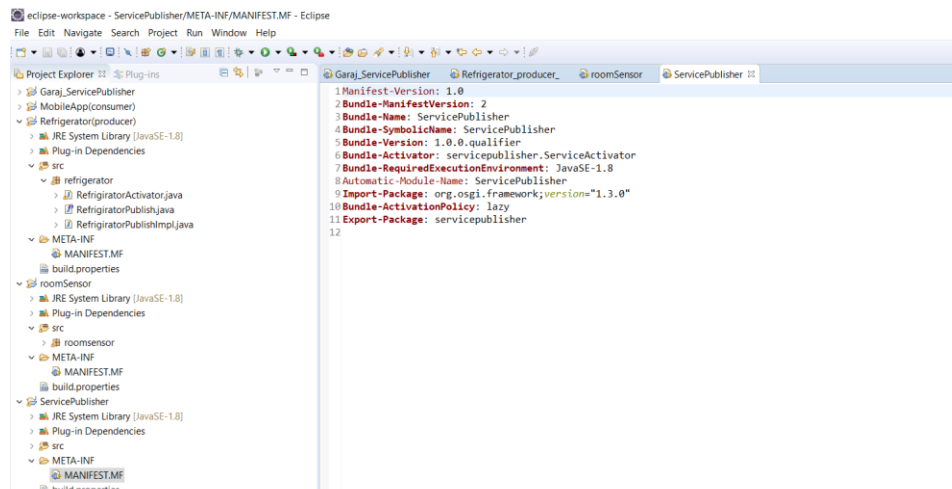


Figure 8 picture

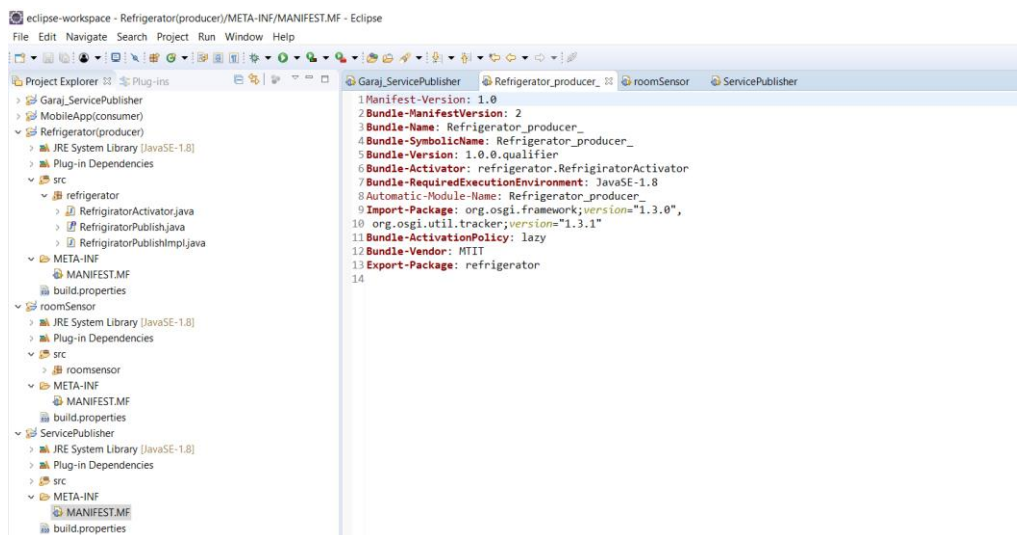


Figure 9 picture

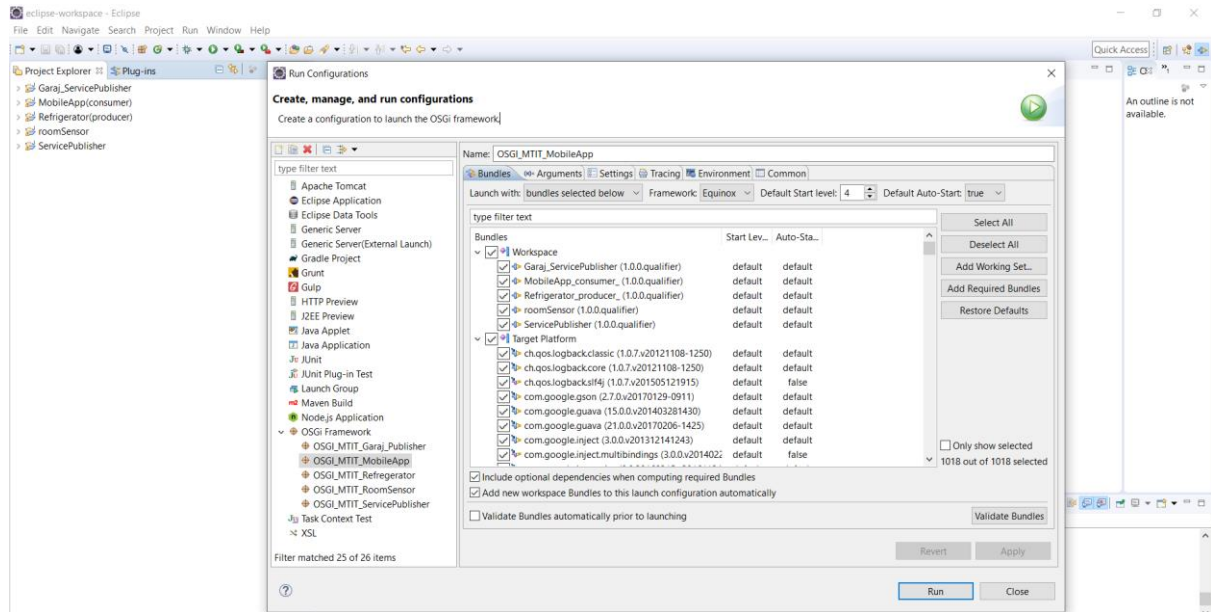


Figure 10 picture

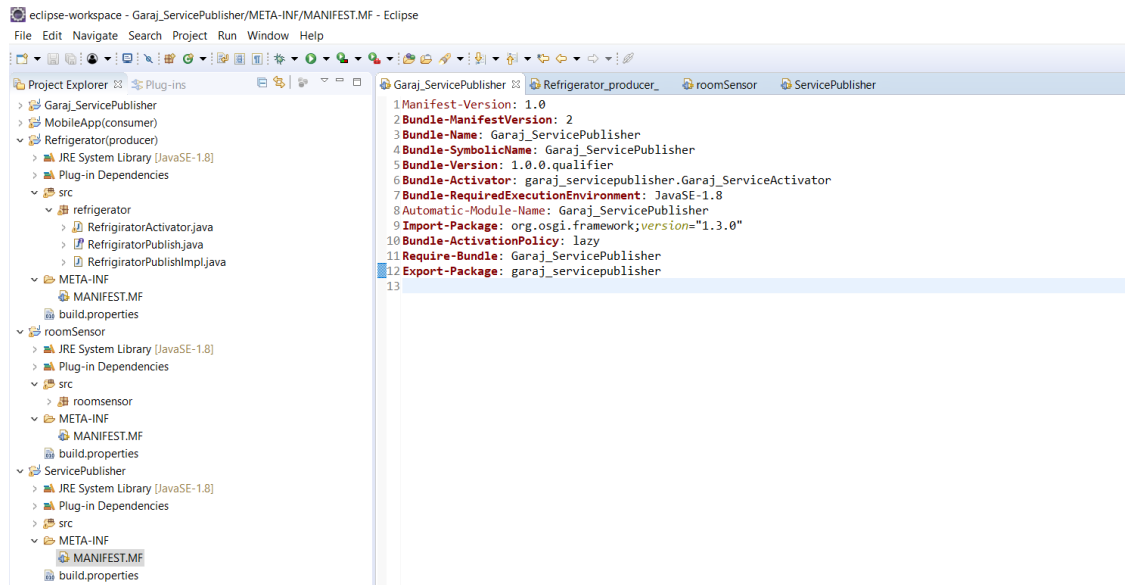


Figure 11 picture