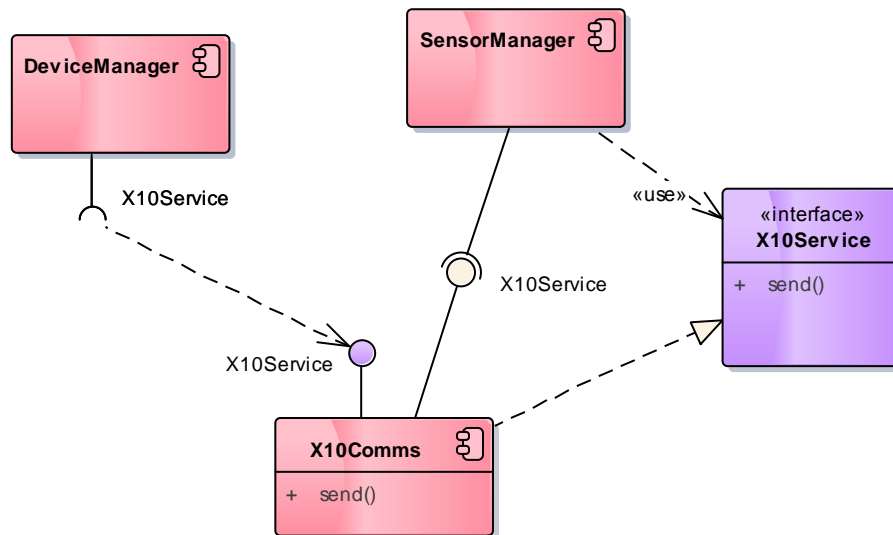


# Learning UML

O'Reilly

## Exercises – Components and Interfaces

If you have followed along, you should have a component diagram called *HomeNetwork*. Your diagram should look something like this.



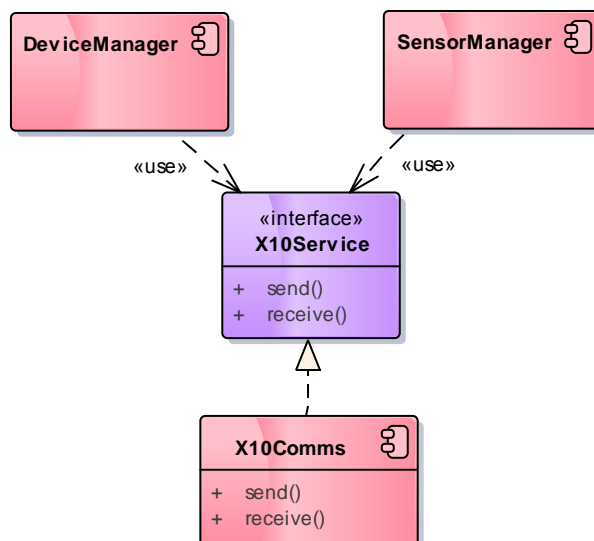
To be consistent, the diagram should use one notation.

Add an operation called *receive()* to *X10Service* and *X10Comms*.

Remove the required and provided interfaces called *X10Service* on *DeviceManager* and *X10Comms*, and the assembly connector between *SensorManager* and *X10Comms*.

Add a use relationship from *DeviceManager* to the interface *X10Comms*.

Your diagram should look something like this.



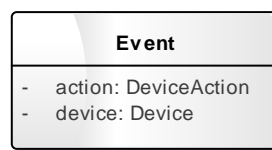
Now create a new package in the *Component View* called *EventManager*, with a component diagram of the same name in it.

Add two new components called *EventResponder* and *EventQueue* to the diagram. Also add the existing *DeviceManager* component. (Don't include the *X10Service* required interface if it is still linked to the *DeviceManager*.)

Using the Component Relationship called *Assembly* in the toolbox, add a connection between *DeviceManager* and *EventQueue* and call it *Dequeue*.

In the *Class View*, *EventMgt* package create a new class called *Event* with two attributes: *action* of the type *DeviceAction*, and *device* of the type *Device*.

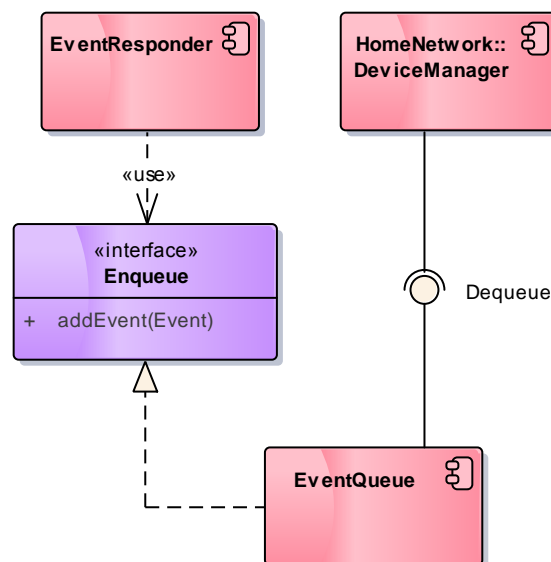
Your class should look like this.



Add an interface called *Enqueue* to the component diagram, and add the operation *addEvent*, with a single parameter called *event* of the class *Event* (that you have just added).

Create a realization relationship to it from *EventQueue* and a use dependency to it from *EventResponder*.

Your diagram should look something like this. (Note again that we would not normally use two different notations in this way.)



Add the interface *Dequeue* to the diagram in the same way as the interface *Enqueue*. Remove the assembly connector of the same name from the model.

Add the operation *getEvent()* returning an *Event* to the interface *Dequeue*.

Create a realization relationship to it from *EventQueue* and a use dependency to it from *DeviceManager*.

Your diagram should now look like this.

