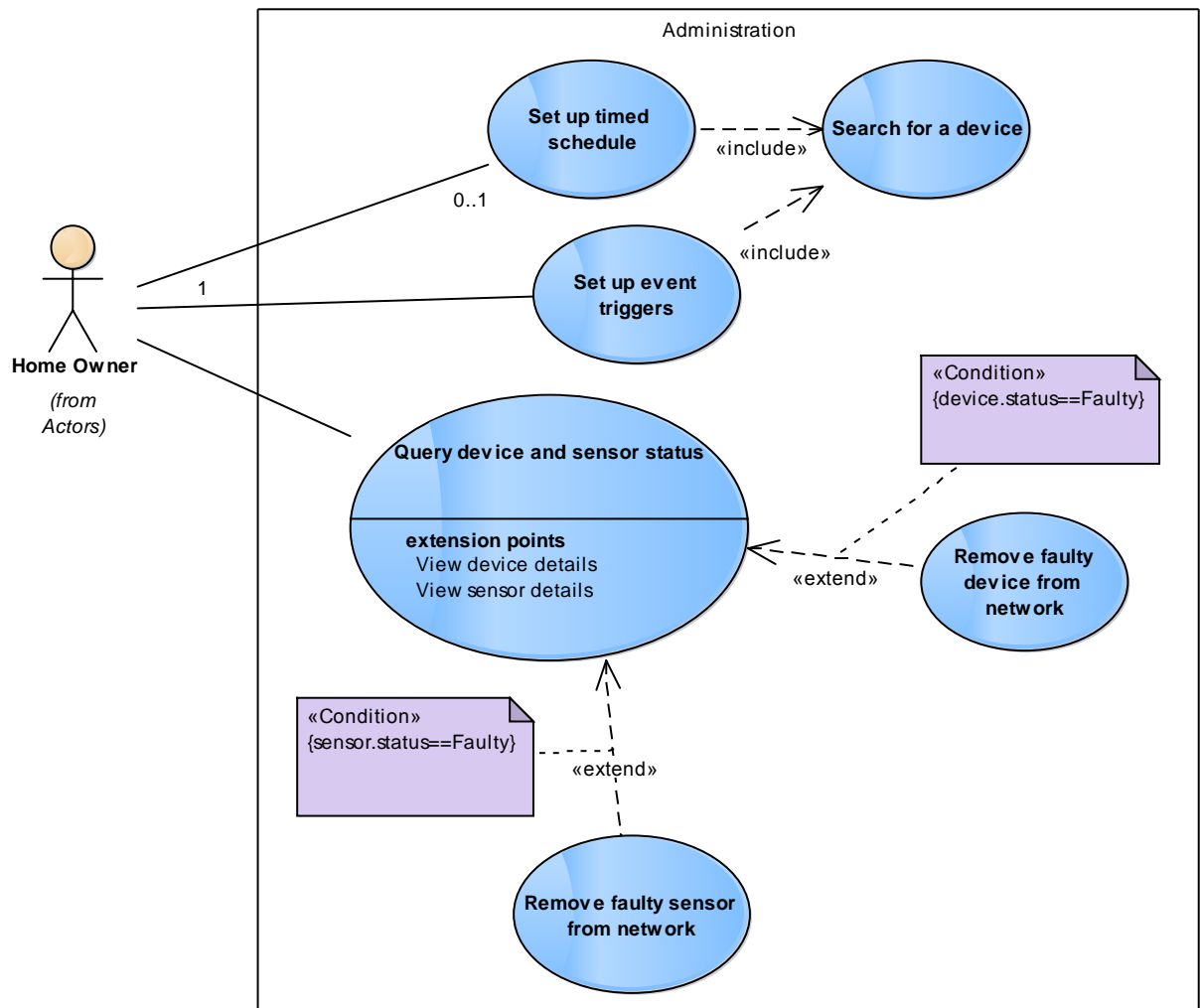# Learning UML

O'Reilly

Exercises – States and Transitions

If you have followed along, you should have a use case diagram called *Administration*.

Now you are going to add a state machine diagram to the use case *Query device and sensor status*.

Select the use case and add a child diagram as a statemachine diagram. Give it the same name as the use case.

Add an initial pseudostate and a final state inside the frame.

Add the state *DisplayPage* for the overall web page and enlarge it so that you can add states nested inside it.

Add the following states:
DeviceAndSensorList
DeviceDisplay
FaultyDeviceDisplay

Sensor Display
FaultySensorDisplay

Add a transition from the initial pseudostate to *DeviceAndSensorList* called *enter page* and the behaviour *display device and sensor list*.

Add a transition from *DisplayPage* to the final state called *leave page*.

Add the following transitions:
DeviceAndSensorList to *DeviceDisplay* called *select device* with the behaviour *display device* and the guard *[device is not faulty]*.
DeviceAndSensorList to *SensorDisplay* called *select sensor* with the behaviour *display sensor* and the guard *[sensor is not faulty]*.
DeviceAndSensorList to *FaultyDeviceDisplay* called *select device* with the behaviour *display faulty device* and the guard *[device is faulty]*.
DeviceAndSensorList to *FaultySensorDisplay* called *select sensor* with the behaviour *display faulty sensor* and the guard *[sensor is faulty]*.

Add transitions back to *DeviceAndSensorList* called *back* with the behaviour *display device and sensor list*.

Your diagram should look something like this.