[Aspire :: OSGi Bundles for Aspire servers](#)
Aspire :: OSGi Bundles for Aspire servers

This section describes the OSGi bundles used in the Aspire middleware.

## *1 Source repository*

- [Source repository](#)

## *2 OBR*

The artifact will be available soon through an [OBR index](#) mapped on a Maven repository.

## *3 General Purpose*

- [Bluetooth Server](#)
- [RXTX](#)
- [LibUSBJava](#)
- [Phidget library?](#)

## *4 Readers*

4.1 Libraries The bundles for readers package only implementation classes imported by the ALEServer barfile (bundle+war) deployed on the OSGi platform.

- [ProximaRF Desktop USB reader](#)
- [TagSys Medio Serial reader](#)
- [ACR 122 USB reader](#)
- [OneWire reader](#)
- [Phidget RFID Reader?](#)

4.2 Bundles with HALAdaptor services The bundles package services that are automatically added and removed to the ALEServer' LRSpec list 4.3 UPnP RFID Readers

- [UPnP RFID Reader (based on ACR122U](#)

## 5 Sensors

5.1 Data exchanges Data sent by the sensors to the ALEServer are:

- [org.osgi.util.measurement.Measurement](#)
- [org.osgi.util.measurement.State](#)
- [org.osgi.util.position.Position](#)
- [java.awt.Image](#)
- [javax.imageio.IIOImage](#)
- java.lang.Double
- java.lang.Float
- java.lang.Long
- java.lang.Integer

Data values must be represented in units defined by the [International System of Units](#) (such as the [org.osgi.util.measurement.Unit](#)).

Sensors data types are named *[flavors](#)* in the WireAdmin terminology.

Other data types could be

- Location API for J2ME (JSR 179) ( [http://www.jcp.org/en/jsr/detail?id=179](http://www.jcp.org/en/jsr/detail?id=179))
- Java Distributed Data Acquisition and Control API (JDDAC) ( [https://jddac.dev.java.net](https://jddac.dev.java.net))

5.2 Sensors properties Sensors and data properties qualify the Producer services and Event properties used in the Aspire components.

- application.name
- value.unit
- ...

[UPnP constants](#) can be used also. 5.3 OSGi WireAdmin based sensors The sensors are developed according the OSGi [WireAdmin](#) specification. The bundles for sensors package Producer services. Those service are automatically wired to the Consumer service of the ALEServer barfile.

- [OneWire](#)
- [TEMPer](#)
- [Oregon WMR 200 weather station](#)
- [LaCrosse WS 2300 weather station](#)
- Sunspot
- Wiimote
- [NMEA GPS](#)
- USB WebCam using JMF
- USB WebCam unig QT
- [USB Multimeter Velleman DVM 1200](#)

5.4 OSGi EventAdmin based sensors The sensors are developed according the OSGi [EventAdmin](#) specification. They send/post events containing measures to the ALEServer' topic `org/ow2/aspirerfid/aleserver/sensedata`. The Event properties are : 5.5 OSGi MonitorAdmin based sensors The sensors are developed according the OSGi [MonitorAdmin](#) specification. 5.6 OSGi UPnP Base Driver based sensors The sensors are developed according the OSGi [UPnP Base Driver](#) specification.

## 6 Actuators

- [iBuddy](#)
- [Rocket launcher](#)
- [Velleman K8090 USB 8 relays](#)
- [Servo Motors?](#)

6.1 OSGi UPnP Base Driver based actuators The sensors are developed according the OSGi [UPnP Base Driver](#) specification.

## *7 Sensors+Actuators*

- Lego Mindstorms
- USB Phidgets
- Velleman K8055 acquisition board
- Arduino

## *8 Others*

## *9 Utilities*

- SensorConsumer
- WireAdmin-to-EventAdmin bridge

## **10 How to develop**

10.1 Serial devices (and serial-to-USB devices)

- RXTX

10.2 USB devices

- LibUSB Java

10.3 Bluetooth devices

- Bluetooth bridge

10.4 Zigbee devices 10.5 6lowPAN devices 10.6 Sample of OSGi WireAdmin producer 10.7 Sample of OSGi WireAdmin consumer 10.8 Sample of OSGi EventAdmin publisher 10.9 Sample of OSGi EventAdmin subscriber (ie EventHandler)
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