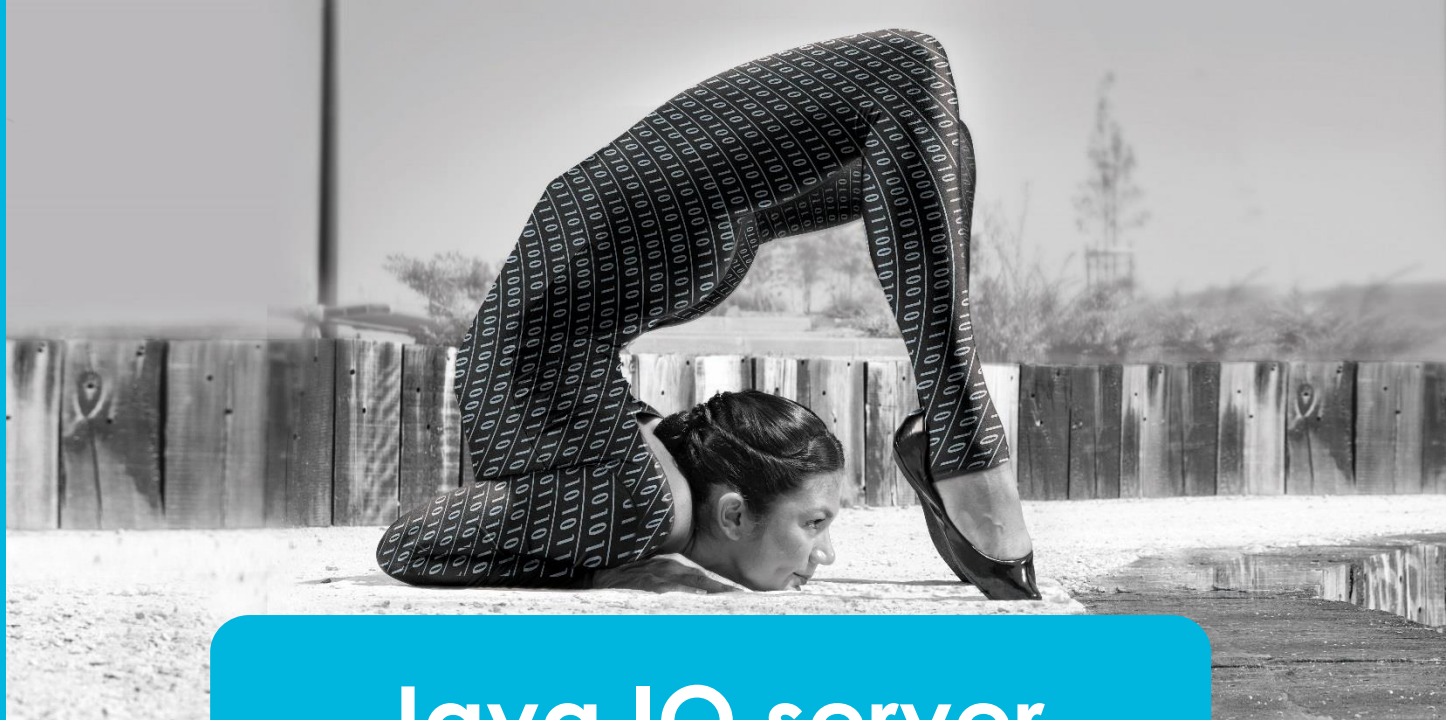




SIMON DETOLLENAERE
Technical Support Engineer



Java IO server

FlexThink! 2015

Simon Detollenaere
Technical Support

 **Flexthink!**
C o n f e r e n c e
f o r D e v e l o p e r s

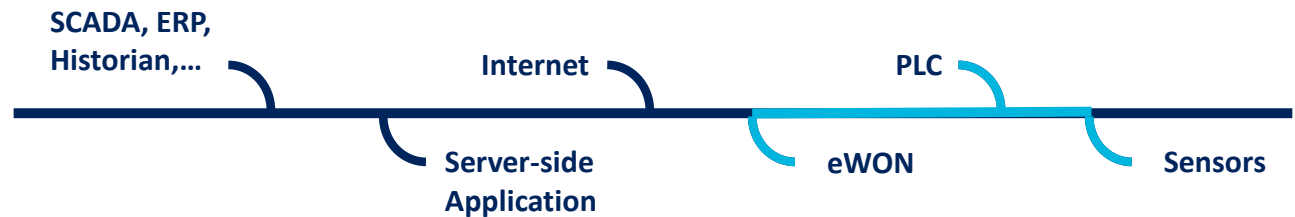
Where are we?

In this presentation, the topic we talk about is:

- Field Data Acquisition

This means we show how to...

- Retrieve data from PLC/Meter to eWON through a custom I/O Server



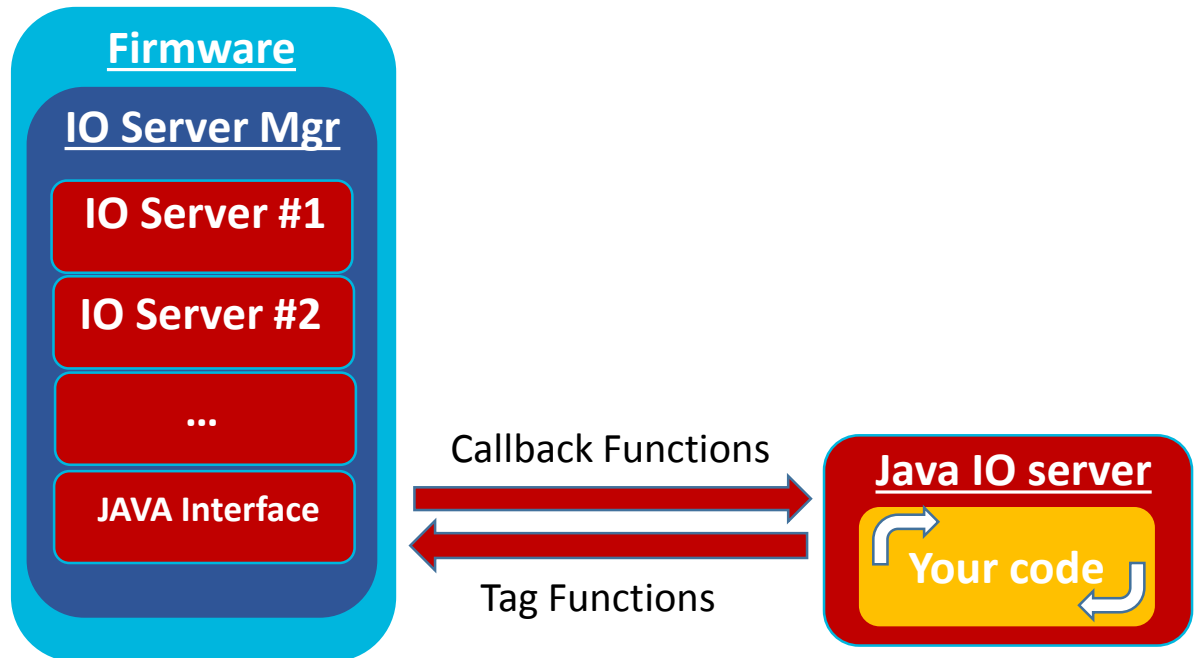
Reminder

What is Java IO server library used for?

- The JAVA IO server library allows you to develop your own IO server from scratch.

Java IO server BASICS

- Your JAVA IO server runs along with the firmware
 - Separated thread with cyclic task in JAVA.
- How does the eWON firmware communicate with your IO server ?
 - Through callback functions (or events)



Java IO server BASICS(2)

Callback Functions

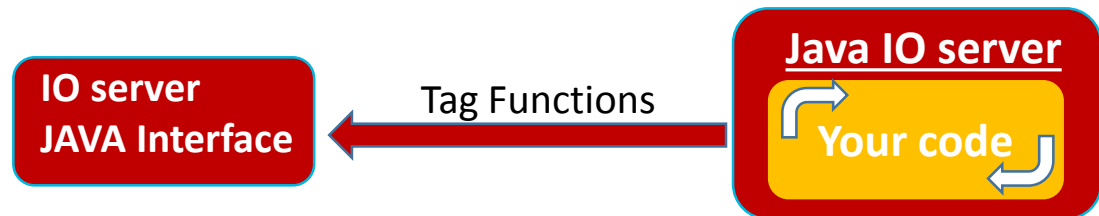
- Your Java IO server is advised when
 - A new Tag is created : **OnAdviseIO()**
 - A Tag is deleted : **OnUnAdviseIO()**
 - When a Tag changes : **OnPutIO()**
 - When a new Configuration for your IOserver is done (Global parameters): **OnPassConfig()**
 - The user tries to configure a new Tag:
OnGetIO() , **OnGetIOInfo()**
 - ➔ Allows you to check Address Syntax from your java code



Java IOserver BASICS(3)

Tag Functions

- Your Java IO server is able to return to the eWON Core :
 - A new value for the Tag: `postIoChange()`
 - A new quality for the Tag: `postIoQuality()`



Why using Java IO server library?

- When more complex protocols need to be developed, it is advised to develop it using the JAVA IO server Library
 - ➔ Serial or IP protocols (UDP/TCP)
- Fast code execution.
- Use of an object-oriented and well-known programming language.
 - More opened to pure IT developers

Why using Java IO server library (2) ?

- An JAVA IO server is configured the same way as the other embedded IO Servers.
→ No configuration files needed !

IO Server: TELNET [Edit](#) [Clear](#) [Init](#)

IO Server: TELNET

```
ip:10.0.7.24
port:8023
username:guest
password:guest
pollrate:5000
debug:1
```

Identification		
Tag Name:	TELENET_TEMPERATURE	Page:
Tag Description:		

I/O Server Setup		
Server Name:	TELNET	Topic Name:
Address:	TEMPERATURE	
Type:	Floating point	Force Read Only: <input type="checkbox"/>

Why using Java IO server library (3) ?

- Better integration in the eWON Customer application.

eWON Application Engineer <> eWON IOserver Developer

- Code compiled. Own License system ?

JAVA IO servers can be shared/sold easily.

What is needed ?

- Java IDE : NetBeans 7 is the documented one.
- Java ETK (J2ME framework used)
- Java IO server library (included as of Java ETK v1.4)
- An eWON

All documents are available on our
support website

Do I need to be a JAVA expert ?

Yes and No...

Yes...

- You have to know how to code in JAVA
- JAVA coding is not as simple as BASIC.

No...

- Java application cannot crash the eWON firmware.
- Manuals and many examples are available

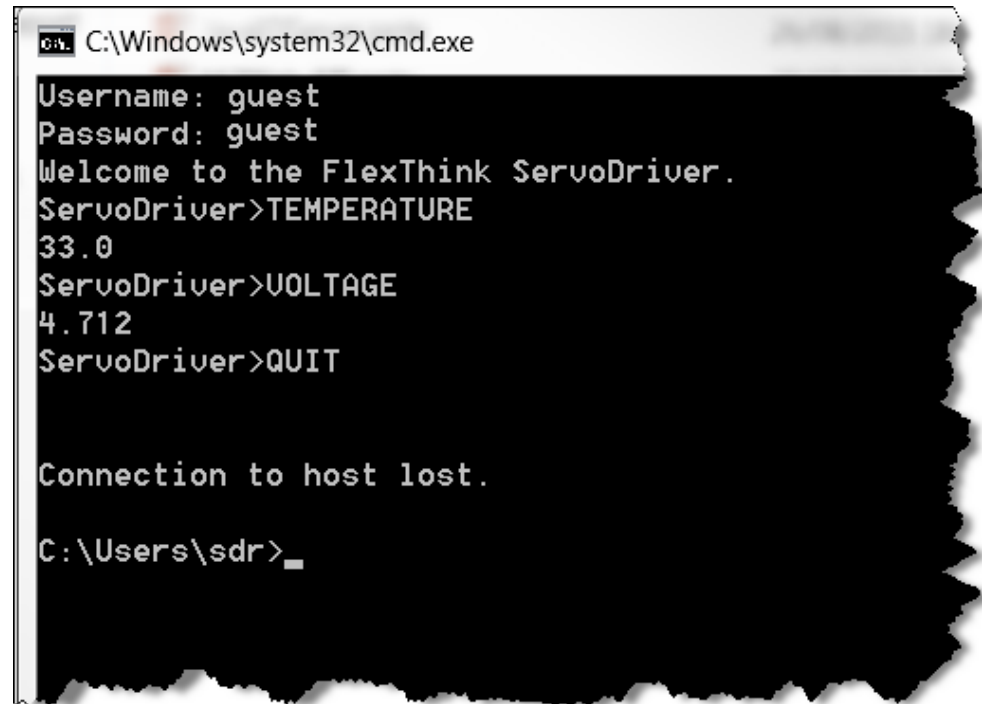
Java IO server

Miscellaneous

- Your Java IO server can use all other APIs coming from the eWON ETK such as :
 - Write logs in events log or real time logs
 - Access to the eWON configuration
 - Reading/Writing files
 - ...
- Java IO Server can be started at eWON boot. (*JVMRUN* file)

See eWON Java interface user guide on our support website

- Creation of a Java IO server used to communicate with a TELNET server :



```
C:\Windows\system32\cmd.exe
Username: guest
Password: guest
Welcome to the FlexThink ServoDriver.
ServoDriver>TEMPERATURE
33.0
ServoDriver>VOLTAGE
4.712
ServoDriver>QUIT

Connection to host lost.

C:\Users\sdr>
```