

## Remotely Deploying Equinox with Maynstall

track	type	percent	positive	negative	day	time	room
OSGi DevCon	Tutorial	87%	13	2	Mon.	10:30	Camino Real

The Equinox provisioning software, P2, will offer some really cool update capabilities to Eclipse and RCP. But what if your runtime doesn't have a UI, or a remote runtime on a resource constrained device. Then we need Maynstall which separates the main components of P2 into a more distributed architecture for embedded and managed installs. During this talk we will take a look at the current Maynstall, explore how Maynstall will change to incorporate the P2 code and how to leverage it to manage and deploy applications to embedded devices, even headless ones!

Patrick Dempsey

pd@bandxi.com

Vice President

Band XI International, LLC

Patrick Dempsey writes Java software for embedded platforms at Band XI International. He specializes in platform integration and does much of his programming utilizing the OSGi framework with Service Activator Toolkit and Device Kit. Once upon a time Patrick was a member of the Embedded Java Enablement Team (eJET) in IBM's Pervasive Computing Group. That time, all five years of it, has come and gone leaving only memories of RFID and Telematics and a much better understanding of OSGi, JAVA, embedded C, and all manners of hardware devices. Even before that he earned a BS in Electrical Engineering and a BS and MS in Computer Engineering from North Carolina State University.

### Comments

Pretty good tutorial. Overall content was good, but I had a couple issues w/the tutorial working in my environment.

Too much hacking around bugs (you lost me there) too little explaining of what happens

## Embedding Eclipse Equinox for Fun & Profit

track	type	percent	positive	negative	day	time	room
Mobile and Embedded	Tutorial	100%	15	0	Mon.	8:00	Room 206

Eclipse has proven itself on the desktop as a world-class IDE and rich client platform, but few developers realize how Eclipse technologies provide a solid platform for embedded devices as well. Applications such as remote data logging, industrial control, and media servers can benefit from the same extensibility we have grown to expect on the desktop.

In this tutorial, we walk through the process that a development team might follow to build a remote weather monitoring station. Starting with an off-the-shelf Linux platform with integrated wireless connectivity (Arcom ZyWAN), participants will build a system from the ground up, including:

- Packaging and configuration of a JVM and the Equinox runtime
- Communicating with a remote embedded device using Eclipse DSDP/TM tooling
- Initial provisioning and remote updates of the application using p2/Mayinstall
- Providing a web-based UI using the Equinox HttpService
- Interfacing to weather-station hardware using the OHF DeviceKit framework
- Fall-back mechanisms for building high-reliability embedded Java applications
- and more...

Due to time constraints, we will provide source code for the custom components in the system for use during and after the tutorial. The focus will be on the practical integration of existing Eclipse technologies, with time for discussions and questions.

The tutorial will be completely non-commercial in nature, although we do expect at least a beer from any participants who make millions selling remote weather stations after completing the course.

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Brett Hackleman	bh@bandxi.com	Software Developer	Band XI International, LLC
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John Cunningham	jc@bandxi.com	President	Band XI International, LLC
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### Comments

A little too much material to cover in one session.

Excellent overview of how to use OSGi in embedded devices.

Good overview. It was a lot of content w/good working examples to take home and explore.

Good talk. Lots to cover in 2 hours.

Good tutorial example. Very informative.

Good tutorial, well explained and the subject very interesting. The only problem was about the beginning because it was a bit confusing.

Great tutorial. A bit much to get through in 2 hours.

Love the jigsaw puzzle pieces!

Not enough time! Good material and presentation.

Very helpful information.

Well put together tutorial - given I was familiar with Eclipse, but had never used Equinox/Target mgmt before it was great I could do so much in 2 hours. Nice tying it in with a real world application of the weather station.

## Where's the Data? A Device Kit Tutorial.

track	type	percent	positive	negative	day	time	room
Emerging Technologies	Tutorial	100%	9	0	Mon.	4:00	Room 201

Today's Service-Oriented enterprise solutions can only make the correct decisions when they have the latest and most accurate data. This data is collected by a variety of sensor devices, each of which has its own message format, software interface, and physical connection. There is no accepted, standard way to interface these sensors and devices into such an enterprise system. What is needed is a technology that breaks software's serialized dependency on its hardware platform, while extending the service model to the device layers.

Enter Device Kit, an emerging technology, from the Service-Oriented Device Architecture (SODA) initiative within the Open Healthcare Framework (OHF). From a GPS in a car CAN bus, Device Kit has interfaced it all. Join us for this tutorial in which we unlock the secrets of Device Kit through the integration of a USB device with a temperature sensor (for input) and a pair of LEDs (for output). We will learn the ins and outs of the three basic layers of the Device Kit:

- Connections
- Transports
- Devices

Discussion will center on building the Device Kit Markup Language (DKML) files that drive the Device Kit's code generation tools. We also outline how to use and test the generated code.

Participants will leave this session with:

- A clear understanding of the 3 basic layers of Device Kit
- A USB Temp/LED Device with specification
- A basic knowledge of Device Kit Markup Language
- DKML files for the Temp/LED Device
- The connection, transport, and device software for the Temp/LED device
- Simple tests for each layer
- A sample application that uses all of the code to interact with the Device

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Brooke Kuhlmann	aeonscope@gmail.com	Software Developer	Band XI International, LLC
A software developer and consultant working with Eclipse technologies.			

### Comments

Good tutorial. Very nice explained. Some examples already running can be available next time. Excellent content.

Great presentation.

Great simple example of device kit. Thanks.

Very interesting.