# Chapter 1: Getting Started with Intel Galileo



Yocto Embedded Linux
Linux Kernel 3.8 for Intel Quark SoC
GRUB OS Loader
Unified Rxtensible Firmware Interface(UEFI)
Intel Galileo Gen 2 Development Board

+	
A – Serial Device	: /dev/ttyUSB0
B – Lockfile Location	: /var/lock
C – Callin Program	:
D – Callout Program	:
E – Bps/Par/Bits	: 115200 8N1
F - Hardware Flow Control	: No
G - Software Flow Control	: No
<pre>Change which setting?</pre>	
+	+



Name	Version	
🔻 🛑 💷 Programming Languages		
S v C/C++ Autotools support	8.5.0.201409172108	-
🗆 🖗 C/C++ Berkeley UPC (Unified Parallel C) Toolchain S	Support 8.5.0.201409172108	
C/C++ Call Graph Visualization	3.0.0.201409171651	
☑ ⅔ C/C++ Development Tools	8.5.0.201409172108	
C/C++ Development Tools SDK	8.5.0.201409172108	
C/C++ IBM XLC Compiler Support	8.5.0.201409172108	
	🖉 uide items that are also duinstalled	(A)
Show only the latest versions of available software	🧭 Hide items that are already installed	
🥑 Group items by category	What is <u>already installed</u> ?	
Show only software applicable to target environment		
Contact all update sites during install to find required so	ftware	
?	< Back Next > Cancel	Finish

Work with: Yocto ADT - http://downloads.voctoproject.org	o/releases/eclipse-plugin/1.6/kepler/
	g/releases/eclipse-plugin/1.6/kepler/  Add oftware by working with the "Available Software Sites" preferences.
	ortware by working with the <u>Available Software Sites</u> preferences.
type filter text	(₩)
Name	Version
Sim Yocto Project ADT Plug-in	
Service Project Bitbake Commander Plug-in	
VIII Yocto Project Documentation plug-in	
Select All Deselect All 4 items selected	
Details	
Yocto Project Documentation plug-in 1.0.0.277-cKl5vE7735A	3A537793
	More
Show only the latest versions of available software	Hide items that are already installed
☑ Group items by category	What is <u>already installed</u> ?
Show only software applicable to target environment	
Contact all update sites during install to find required sof	tware
?	< Back Next > Cancel Finish

type filter text	Yocto Project ADT		
▶ JSHint	Cross development profile	es:	8
LLVM	Standard Profile	\$	Save as Rename
Maven EnIDE			Remove
▶ Mylyn			Remove
Nodeclipse	Cross Compiler Options:		
▶ PHP	Standalone pre-built to	oolchain	
<ul> <li>Plug-in Developmen</li> <li>Remote Systems</li> </ul>	○ Build system derived t	oolchain	
<ul> <li>Run/Debug</li> <li>Server</li> </ul>	Toolchain Root Location:	/opt/clanton-tiny/1.4.2	Browse
<ul> <li>StartExplorer</li> <li>Target Explorer</li> </ul>	Sysroot Location:	/opt/clanton-tiny/1.4.2/sysroots	Browse
▶ Team	Target Architecture:	i586-poky-linux-uclibc	\$
Terminal Tracing	Target Options:		
<ul> <li>Web</li> <li>Web Services</li> </ul>	Kernel:		Browse
<ul> <li>WindowBuilder</li> </ul>	Custom Option:		
<ul> <li>XML</li> <li>YEdit Preferences</li> </ul>	External HW		
Yocto Project ADT		Restore <u>D</u> e	faults Apply
?		Can	OK

### Remote Linux System Connection

#### Define connection information

Parent profile:	onur-desk	*
Host name:	192.168.2.88	•
Connection name:	galileo	
Description:		
Verify host name Configure proxy setting	<u>1Q5</u>	

#### Create, manage, and run configurations

📑 🗎 🗶 🗐 🛟	Name: Galileo							
type filter text	🗵 🗎 Main 🖉 Arguments 🛙	<u>C</u> ommon						
<ul> <li>C/C++ Application</li> <li>C/C++ Remote Application</li> </ul>	Connection: galileo		÷	New	Properties			
C Galileo	Project:							
Cü C/C++ Unit	helloworld	helloworld <u>B</u> rowse						
🐨 Coffee Coffeecompile	Build configuration:	Build (GNU)			*			
Eclipse Application		👿 Select configu	ration using	g'C/C++ Applicat	ion'			
🚱 gradle build	C/C++ Application:	C/C++ Application:						
Gradle GUI     Gradle installDebug	/home/onur/workspace/h	/home/onur/workspace/helloworld/src/helloworld						
		Var	iables	Search Project	Browse			
gradle jettyEclipseRun	Romoto Abcoluto Eilo Dath							
📀 gradle jettyRun		Remote Absolute File Path for C/C++ Application:						
🚱 gradle run		/home/root/apps Browse						
🖾 Java Applet	Commands to execute befo	pre application						
Java Application								
Multiplication	Skip download to targe	t path.						
Ju JUnit								
📅 JUnit Plug-in Test								
Launch Group								
ma Maven build								
Filter matched 38 of 40 items	Using Legacy Remote Crea	te Process Launcher - <mark>Sele</mark>	ect other	Apply	Revert			
				-				
?				Close	Run			

#### C Broject

<b>Project</b> Create C project of selected type		
Project name: hello_world		
🥑 Use default location		
Location: /home/onur/workspace/hello_worl	d	Browse
Choose file system: default 🛟		
Project type:	Toolchains:	
<ul> <li>Hello World ANSI C Project</li> <li>Shared Library</li> <li>Static Library</li> <li>Yocto Project ADT CMake Project</li> <li>Makefile project</li> <li>GNU Autotools</li> <li>Yocto Project ADT Autotools Project</li> <li>Empty C Autotools Project</li> <li>Hello World ANSI C Autotools Project</li> <li>Hello World GTK C Autotools Project</li> <li>Show project types and toolchains only if the statement of the stat</li></ul>	GNU Autotools Toolchain	
?	< Back Next > Cancel	Finish

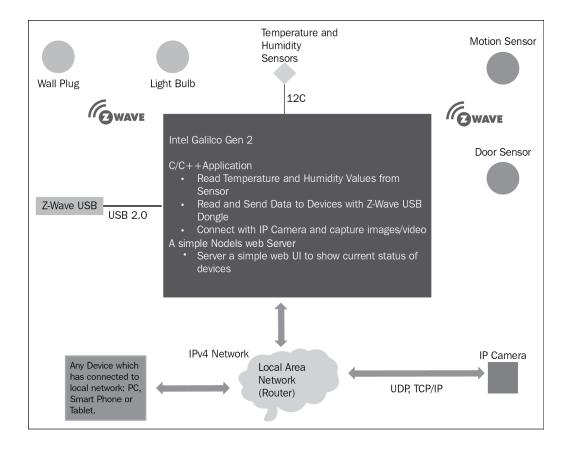
## Chapter 2: Getting Started with Home Automation Applications





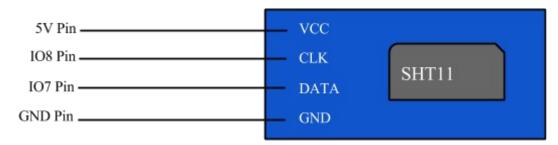






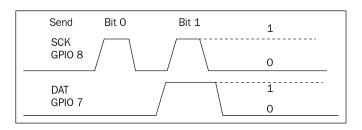
### Chapter 3: Energy Management with Environmental and Electrical Sensors





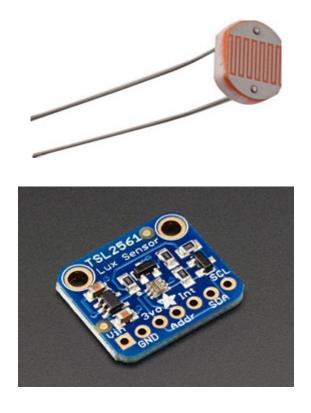






Start Transmission	Send Address	Wait for Data Ready	Read Sensor Data
Send bits 0-1 respectively	Send bits 00000101 bits respectively temperature	 Send ACK bit 0, then wait until DATA pin is 1	 Toggle SCK Pin bit 0-1 16 times and read DATA pin values

Chapter 4: Energy Management with Light Sensors and Extending Use Cases









Chapter 5: Home Monitoring with Common Security Sensors









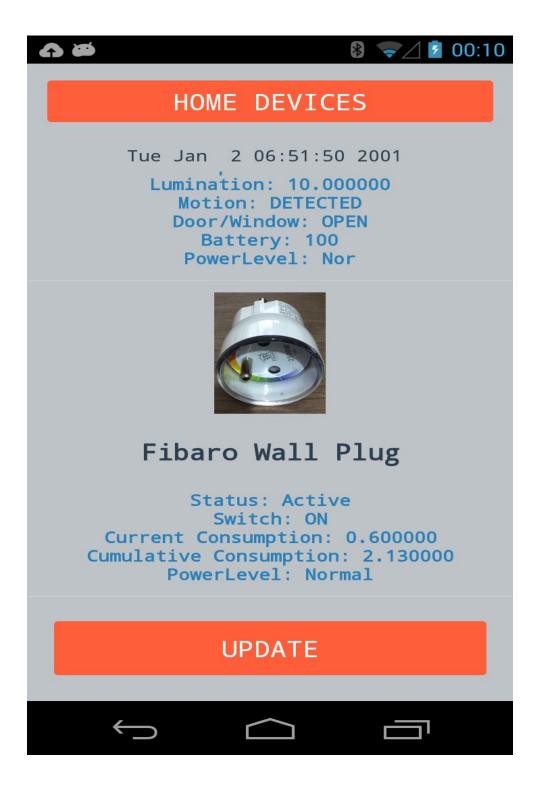




### Chapter 6: Home Surveillance and Extending Security Use Cases



### **Chapter 8: Extending Use Cases**



	http://192.168.2.235:3000/ × +			ě	8 ╤ 🛽 🖁	20:
@ 192.16	68.2.235.3000	V C Q. Search	∔ ☆ ☆ 白 ☰	Home Statu	s: Tue Jan 2 03:21:00 2001	
ome Stat	us: Tue Jan 2 03:16:58 2001 SHT11 Sensor		0		SHT11 Sensor Status: Active, TEMPERATURE: 2	Ø
-	Status: Active, TEMPERATURE: 24.00000 Celosus, HUMIDITY: 70.00000 Phillio Multi-Sensor Status: Steeping, TEMPERATURE: 78.000000 Fahreneit, LUMINATION: 8.00000 MOTION is: DETECTED, DOORWINDOW: OPEN Battery: 10%		0	-	Philio Multi-Sensor Status: Sleeping, TEMPERATURE MOTION is: DETECTED, DOOR/W	0
	Fibaro Wall Plug Status: Active SWTCri Is : ON Current Power Consumption: 0.600000 KWh, Currulative Energy Consumption: 2.1	3000 kWn	0		Fibaro Wall Plug Status: Active SWITCH is : ON Current Power Consumption: 0.6	0
U	Everspring Lamp Holder Status: Active SWITCH is : ON		Ø	-	Everspring Lamp Holder Status: Active SWITCH is : ON	0
	Everspring Flood Detector Status: Steeping FLOOD is : NOT DETECTED		O	<b>()</b>	Everspring Flood Detect Status: Sleeping FLOOD is : NOT DETECTED	O
	MQ-9 CO Sensor Status: Active		0	$\leftarrow$		

