Debianinux Examples

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Chapter 1

Debianinux Examples

Some examples for Arduino Eclipse C++ IDE

Here some classic HelloWorld test projects for Debianinux virtual environment for Arduino boards. Further there are some configuration files customized for Debianinux available under the folder INSTALL.

Debianinux is a Debian virtual machine that offers an integrated Arduino Eclipse C++ environment on Linux platform.

Please refer to the Debianinux tutorial to know more details about it. The tutorial is available at www.embeddedrevolution.blogspot.it

The tutorial is a step-by-step guide to create a full Linux virtual machine configured to work with standard Arduino IDE and Eclipse C++ Framework. So you can start to design your virtual machine or download it ready to use.

There are a lot of distributions on the market but Debian is really powerful and light enough to run also under a virtual machine. I tested for example Ubuntu but it requires a lot of resources to run smartly. The VMWare Player is much more powerful than other similar tools (e.g. Oralce VM VirtualBox). So, Debianinux is a proposal to combine a virtual Linux Desktop environment as framework for lovely Arduino world. Anyway at the end of the guide there is also a section related to some nice alternatives both for Linux and Microsoft Windows.

HelloCWorld

The HelloCWorld.cpp example is a useful test for:

1) The Eclipse C++ environment integrating Arduino tools provided through the free plugin "Arduino Eclipse IDE V2" directly from the Eclipse Marketplace Client (MPC) interface available within Eclipse IDE. Open Eclipse and search between solutions listed on the Eclipse Marketplace portal.

2) The open source Arduino-Makefile. It is a free package available within GitHub Community that provides a command-line workflow through your preferred Terminal. It is a very simple Makefile which knows how to build Arduino sketches. It integrates the standard GNU toolchain to compiling, uploading and monitoring Arduino boards through serial port.

HelloWorld

The HelloWorld.cpp example instead provide an easy example to test just the powerful Eclipse environment with the free Arduino plugin with standard ".ino" source code format.

From source

- Download the latest release
- Or clone it from Github using the command `git clone git@github.com:misteralex/Debianinux.git`

- Check the Debianinux tutorial and this readme about usage options.

Requirements

You need to have Debianinux or equivalent environment that include Arduino IDE, Eclipse C++ IDE with "Arduino Eclipse IDE V2" plugin or Arduino-Makefile.

Usage

To use these examples is enough open them through Eclipse or use standard make tool from terminal.

Please refer to the Debianinux tutorial to know more details about it. The tutorial is available at www.embeddedrevolution.blogspot.it Home Page.

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Chapter 2

File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

Chapter 3

File Documentation

3.1 HelloCWorld/HelloCWorld.cpp File Reference

Provide an example of standard Arduino project in C language under Eclipse IDE.

```
#include "HelloCWorld.h"
```

Functions

- int main ()

  Main process.

3.1.1 Detailed Description

Provide an example of standard Arduino project in C language under Eclipse IDE.

Author

Alessandro Faraci (afembeddedrevolution@gmail.com)

Date

2/6/2014

Version

1.1

3.1.2 DESCRIPTION

This application is meant as example. It useful as test tool for standart output through virtual standard serial RS232C as part of Debianinux context.

3.1.3 Function Documentation

3.1.3.1 int main ( )

Main process.

Parameters

no	input parameters

Returns

no output

Init serial communications and wait for port to open:

Wait for serial port to connect (this is an optional condition board related)

3.2 HelloCWorld/HelloCWorld.h File Reference

Standard header.

```
#include "Arduino.h"
```

3.2.1 Detailed Description

Standard header.

Author

Alessandro Faraci (afembeddedrevolution@gmail.com)

Date

2/6/2014

Version

1.1

3.2.2 DESCRIPTION

Only modify this file to include

- function definitions (prototypes)
- include files
- extern variable definitions

in the appropriate section

3.3 HelloWorld/HelloWorld.cpp File Reference

Provide an example of standard Arduino project in Wiring language under Eclipse IDE.

```
#include "HelloWorld.h"
```

Functions

- void setup ()

  Setup function called once at startup of the sketch.
- void loop ()

  Loop function called in an endless loop.

3.3.1 Detailed Description

Provide an example of standard Arduino project in Wiring language under Eclipse IDE.

Author

Alessandro Faraci (afembeddedrevolution@gmail.com)

Date

2/6/2014

Version

1.1

3.3.2 DESCRIPTION

This application is meant as example. It useful as test tool for standart output through virtual standard serial RS232C as part of Debianinux context.

3.3.3 Function Documentation

3.3.3.1 void loop ( )

Loop function called in an endless loop.

Add your includes for the project HelloWorld here.

Parameters

no	input parameters

Returns

void

Send an output message through standard serial virtual port

Delay one second

3.3.3.2 void setup ( )

Setup function called once at startup of the sketch.

Parameters

no	input parameters

Returns

void

3.4 HelloWorld/HelloWorld.h File Reference

Standard header.

```
#include "Arduino.h"
```

Functions

- void loop ()

  Add your includes for the project HelloWorld here.
- void setup ()

  Setup function called once at startup of the sketch.

3.4.1 Detailed Description

Standard header.

Author

Alessandro Faraci (afembeddedrevolution@gmail.com)

Date

2/6/2014

Version

1.1

3.4.2 DESCRIPTION

Only modify this file to include

- function definitions (prototypes)
- include files
- extern variable definitions

In the appropriate section

3.4.3 Function Documentation

3.4.3.1 void loop ( )

Add your includes for the project HelloWorld here.

End of add your includes here

Add your includes for the project HelloWorld here.

Parameters

no	input parameters

Returns

void

Send an output message through standard serial virtual port

Delay one second

3.4.3.2 void setup ( )

Setup function called once at startup of the sketch.

Parameters

no	input parameters

Returns

void

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