HomeAut demo

on STM32 Nucleo F401RE and STM32F4 Discovery

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# Prologue

This document and project show „How to use an STM32F4 microcontroller”. This microcontroller family factored by STmicroelectronics, which is the one of the largest IC factory. I want to give a demo, which has a command handler, which process the command via UART, and you can set GPIO (General Purpose Input-Output) port.

This demo available on STM32F4 Discovery (STM32F407VG), and on STM32 Nucleo F401RE (STM32F401RE). These devkits (Development Kits) are the most famous and cheapest available devkits.

# How to use this demo on your installed devkit?

1. Prepare these:
	1. Devkit
	2. miniUSB cable
	3. USB-UART converter
	4. connection cable between USB-UART converter and devkit
	5. Download and install a serial terminal, for example
		1. FastenTerminal
		2. ZOC
		3. PuTTy
		4. HyperTerminal
		5. etc.
2. Connect USB-UART converter to your devkit with cables
	1. On devkit, use these pins:
		1. PC6 (TX)
		2. PC7 (RX)
		3. GND
	2. Do not forget the swap! (TX-RX)
3. Connect miniUSB cable to your devkit and PC (for supply)
4. Connect USB-UART converter to your PC
5. Start your serial terminal
6. Start serial receiving with this settings:
	1. Baudrate: 9600
	2. Type: 8N1
		1. 8 bit / byte, No parity, 1 stop bit
7. Reset devkit with reset button
	1. Now, the devkit send welcome messages
8. Type a command, and send it
	1. The devkit will respond
	2. For example, use the “help” command



1. image - UART pin connections

# What can I do with this demo?

In this demo available source code (project) and you can to something in this demo with commands.

Some important command:

* help
* help <command>
* ioinit
* ioin
* ioout
* adc

Check the attached commands details.

Open *Projects\STM32F407DiscoHomeAut\DoxyDocs\html\index.html*

# How to install the demo, if you have a new devkit?

1. Prepare these:
	1. devkit
	2. miniUSB cable
	3. ST-link utility
2. Connect the miniUSB cable to your devkit and the PC or notebook.
3. You can download program:
	1. Copy the binary to new mass storage drive (for example: G:\ drive)
	2. or program with ST-link utility
	3. or Debug (and download) with IDE
4. Enjoy it!

# Links

<http://atollic.com/>

<https://www.emtec.com/zoc/>