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## Tutorial



# Developing Korebot applications on Windows

## 1 Versions

Version	Date	Auteur	Description	Approuvé
1	23.01.2008	T. Carron	Création initiale	



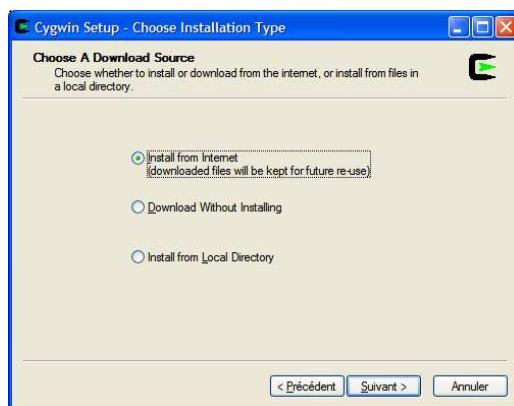
## 2 Goal of this document

This tutorial is a guide designed to explain you how to develop applications for Korebot from a Microsoft Windows workstation.

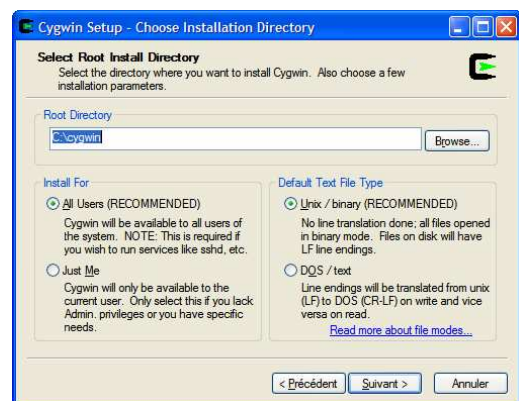
Please respect the full procedure in order to have a working environment (do not change path!). This procedure has been tested under Windows XP SP2.

## 3 Installation

- First, be sure to have downloaded these 3 files from K-Team website (<http://www.k-team.com>) :
  - KorebotIDSetup.exe
  - KorebotToolchainSetup.exe
  - libkorebot-1.11.zip
- Run KorebotIDSetup.exe and keep the default settings. After completion, accept the register edition.
- Run KorebotToolchainSetup.exe. After the standard installation the system will install Cygwin (Internet connection necessary)



Select "internet"

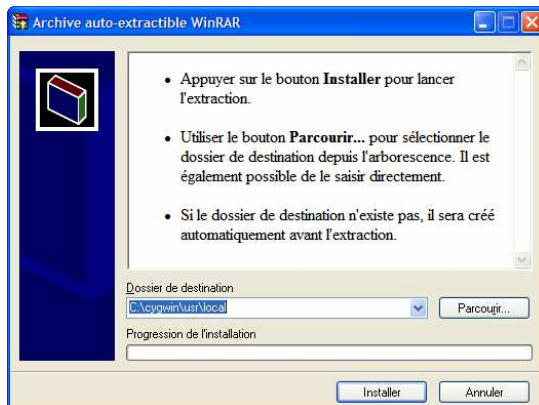


Keep C:\cygwin !!

Choose a mirror near your location to speed up transfert, then keep default packages



**Warning** : While cygwin is being installed, the main toolchain install window stay open. Please don't close it !



Keep C:\cygwin\usr\local and click on « installer »

Once this done, you have to reboot you computer.  
Congratulations, you have installed the Korebot toolchain !

## 4 Using the toolchain

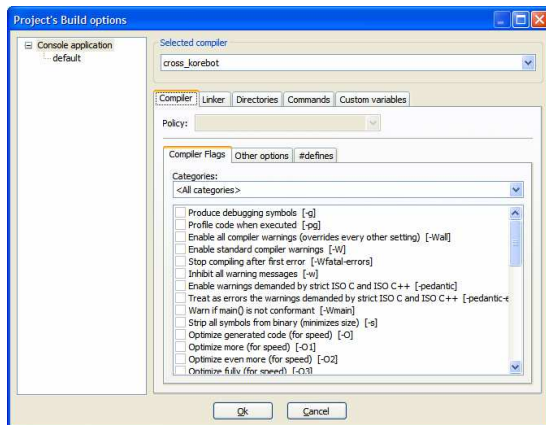
- Open the KorebotIDE from your start menu
- Create a new project (console application, c code) and save it in C:\cygwin\home\user\folder\_name\_of\_your\_project. Close the project
- Locate the file "cygwin1.dll" in C:\cygwin\home\user\ and copy it in your new project folder
- Then, you have to edit your project file (name\_of\_your\_project.cbp) with a standard editor. Please add the 2 bold lines as below :

```
<Project>  
  <Option title="Console application"/>  
  <Option makefile="Makefile"/>  
  <Option makefile_is_custom="0"/>  
  <Option compiler="6"/>
```

- (If this does not work or you're not sure, you can simply open the project "C:\cygwin\home\user\korebotmode.cbp" and write your code inside)
- Reopen your project under KorebotIDE and go to the compiler properties (build menu)



- Verify that “cross\_korebot” is selected :



- You're now ready to write code!
- We now just want to test if your setup is fully working. Please test it by filling a main.c file with code as below :

```
#include <korebot/korebot.h>

int rc      = 0;

int main(int argc, char *argv[])
{
    kb_set_debug_level(2);

    if((rc = kb_init( argc , argv )) < 0 )
        return 1;

    printf("Hello world!\n");
    return 0;
}
```

- Now, please select “clean” in build menu
- Compile your project with “build” in the build menu



- Verify that you had no error during compilation

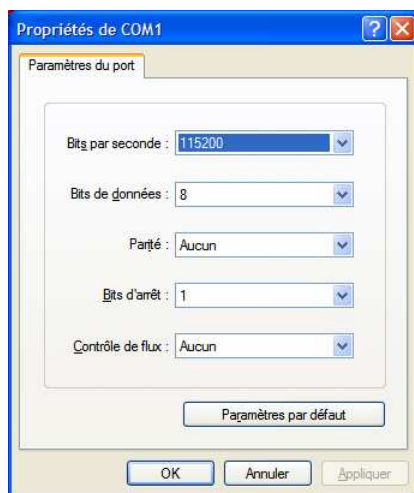
A screenshot of a terminal window showing the output of a compilation process. The text in the terminal reads: 'ara-linux-gcc.exe -IC:\cygwin\usr\local\korebot-tools-0.1.2\libkorebot-1.8\build-korebot\include -IC:\cygwin\usr\local\korebot-tools-0.1.2\include -c main.c -o .objs\main.o', 'ara-linux-gcc.exe -LC:\cygwin\usr\local\korebot-tools-0.1.2\arm-linux\lib -LC:\cygwin\usr\local\korebot-tools-0.1.2\libkorebot-1.8\build-korebot\lib -o bat.exe .objs\main.o -lkorebot', and 'Process terminated with status 0 (0 minutes, 0 seconds)'. Below this, it says '0 errors, 0 warnings'. The terminal window has a standard Windows-style title bar and a toolbar with icons for Code::Blocks, Search results, Build log, Build messages, Debugger, and To-Do List.

Your code was successfully built ! Please note that the output file was set as “name\_of\_your\_project.exe”. It is however a korebot application (ELF format). You can simply rename it in “name\_of\_your\_project”.

## 5 Uploading your soft to the korebot

You’re certainly aware of how to communicate with Korebot.  
If you’re not that sure, please do as below :

- Connect a Korebot to your computer and provide it a 5V supply and a serial connection.
- Open Hyperterminal and configure a 115200,8,N,1 connection



- Start the Korebot (plug 5V or reset if it was done previously). You should see the boot log at the console
- Once the boot is done, please log in with standard username and password



- You can go in the directory where you want to upload the file. It should be in /root by default and that's nice. Be sure that old file (if any) is removed
- Go in Hyperterminal and choose "send file" in transfert menu



- Select your file and choose Zmodem as above. Wait for the transfert to be finished
- Once this done, verify that you can find your file on the Korebot
- You now have to change its attribute to be able to execute it. The command is :

```
chmod 777 name_of_your_project
```

- You can finally run it by typing at the prompt :

```
./name_of_your_project
```

- The console should display "Hello World!" :





## 6 Updating libkorebot

- Open the libkorebot archive you previously downloaded from K-Team and extract the file “libkorebot-1.11-so” from buil-korebot/lib
- On the Korebot, change to /usr/lib and send the file by Hyperterminal. You should now see the file in the directory
- By the way, if you type “ls -l” at the prompt you could see that libkorebot.so is a symbolic link on libkorebot-1.7.so (or whatever). We have to update this link
- First, delete the link file with :

```
rm libkorebot.so
```

- Next, recreate the link with

```
ln -s libkorebot-1.11.so libkorebot.so.
```

- If you type “ls -l” again, you should see that libkorebot.so points to the new file! Your Korebot is up to date! Now let’s check your computer...
- Extract the whole archive on your PC
- Copy the the libkorebot-1.11 folder in C:\cygwin\usr\local\korebot-tools-0.1.2
- Then, go back in KorebotIDE, in buid menu, compiler options, under the tab “Directories”
- Edit the first path to take in account the new lib (in fact, just replace 1.8 by 1.11)
- You can now compile your project with the brand new libraries!

For more information on Korebot, please see it’s manual.