Krill's loader quick setup guide for Windows users

This guide shall provide the necessary information about getting Krill's loader compiled on a Windows system using Cygwin.

Chapter one – installing Cygwin

-download Cygwin from https://www.cygwin.com/

Current Cygwin DLL version

The most recent version of the Cygwin DLL is 2.6.1. Install it by running setup-x86.exe (32-bit installation) or setup-x86_64.exe (64-bit installation).

Use the setup program to perform a fresh install or to update an existing installation.

Since in most cases the 64-bit version will be the interesting one this will be used in the examples.

- make sure to have a good internet connection and run 'setup-x86 64.exe'

-select 'Install from internet'



-choose root directory (can be any location)

Root Directory	
C:\cygwin64	Browse
Install For	
All Users (RECOMMENDED)	
Cygwin will be available to all users of the system.	
⊚ Just Me	
Cygwin will still be available to all users, but Desktop Icons, Cygwin Menu Entries, ar Installer information are only available to the current user. Only select this if you lack Administrator privileges or if you have specific needs.	nd important t

-select local package directory (can be any location)

Select Local Package Directory Select a directory where you want Setup to store the installation files it downloads. The directory will be created if it does not already exist.	E
Local Package Directory C:\Cygwin_packages	Browse

-next select the connection type, in most cases this is 'direct connection'

Oirect Connect	ion
⊚ Use Internet E	plorer Proxy Settings
O Use HTTP/FT	P Proxy:
Proxy Host	
Port	80

-then select a download server close to your location Choose A Download Site

Available Download Sites:	
ftp://mirror.csclub.uwaterloo.ca	
http://mirror.csclub.uwaterloo.ca	
ftp://mirror.switch.ch	
http://mirror.switch.ch	
http://mirrors.neusoft.edu.cn	
http://mirrors.ustc.edu.cn	
ftp://ftp.fau.de	
http://ftp.fau.de	
http://www.gutscheinrausch.de	
ftp://ftp-stud.hs-esslingen.de	
http://ftp-stud.hs-esslingen.de	
ftp://linux.rz.ruhr-uni-bochum.de	
http://linux.rz.ruhr-uni-bochum.de	-
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-on the next screen select 'full' in the upper right corner to make all packages visible in the list

View Full	▼ Se	arch	Clea	ar
Curre Pending			Bin?	S
Up To Da Not Insta	ate , alled		nja	η¢
Picked	}		n/a	η¢
Category	()		nía	n/o

-two additional packages are needed for building the Krill's loader, namely 'perl' and 'make'

-> type 'perl' in the search box and click on the word 'skip' in the line for the perl interpreter until it shows the version number

Selec Selec	t Packag elect packa Full	es ges to install Search per	Clea	ır			
Cum	ent	New	Bin?	Src?	Categories	Size	Package
		Skip	ηία	nja	Text	376k	groff-perl: GNU roff formatter (parts that require Perl)
		Skip	n/a	n/a	Net	24k	hexchat-perl: GTK+ IRC client (Perl scripting plugin)
		Skip	n/a	n/a	Web	16k	nginx-mod_http_perl: Web and mail proxy server
		Skip	n/a	n/a	Net	10k	openssl-perl: Perl scripts provided with OpenSSL
		5.22.2-1	\times		Interpreters, Perl	3,449k	perl: Perl programming language interpreter
		😯 Skip	n/a	ηία	Perl	37k	perl-Algorithm-Diff: Perl distribution Algorithm-Diff
		😯 Skip	n/a	n/a	Perl	21k	perl-Alien-wxWidgets: Perl wxWidgets configuration module
		⇔ Clein	n/n	n/a	Dad	201-	and Arabius Extense: Dad distribution Arabius Extense

->repeat this with 'make'. The Picture below shows how the package selection screen looks if the package 'make' was previously already installed. In that situation just keep 'keep'. Otherwise do like above.

Select Pa Select	ackages t packages to insta	əll					
View Ful	∎ ▼	Search make	Clea	ar			
Current	New		Bin?	Src?	Categories	Size	Package
	 Skip 		n/a	n/a	Devel	589k	gcc-tools-epoch2-automake: (gcc-special) a tool for gene
	😯 Skip		n/a	n/a	Devel	6k	gccmakedep: X Makefile dependency tool for GCC
	😯 Skip		n/a	n/a	Devel	34k	imake: X Imake legacy build system
	😯 Skip		n/a	n/a	Debug	41k	imake-debuginfo: Debug info for imake
	😯 Skip		n/a	n/a	Libs	3k	libWMaker-devel: Window Maker interface library (develo
	😯 Skip		n/a	n/a	Libs	4k	libWMaker1: Window Maker interface library (runtime)
	😯 Skip		n/a	n/a	Graphics	5k	libpagemakertools: MS Publisherfile converters
	😯 Skip		n/a	n/a	Debug	476k	libpagemaker0.0-debuginfo: Debug info for libpagemaker0
	😯 Skip		n/a	n/a	Libs	2k	libpagemaker0.0-devel: Adobe PageMaker import filter libr
	😯 Skip		n/a	n/a	Libs	105k	libpagemaker0.0-doc: Adobe PageMaker import filter libra
	😯 Skip		n/a	n/a	Libs	68k	libpagemaker0.0_0: Adobe PageMaker import filter library
4.2.1-1	😯 Keep		n/a		Devel	449k	make: The GNU version of the 'make' utility
	🚯 Skip		n/a	n/a	Debug	374k	make-debuginfo: Debug info for make

-Installation can take quite some minutes. In my case it took even several hours since there seems to be a strange bug where a process dash.exe needs extremely long to complete. Usually this should not be the case.

- during installation cygwin will create a home directory for the current user which can be found for the user 'map' (in my case) at this location: C:\cygwin64\home\map

In cygwin everything done by the user happens here by default.

- I recommend to uncomment some lines in the file .bashrc like this:

Chapter two – installation of CC65

-navigate with your web-browser to: https://cc65.github.io/cc65/

It is possible to get and build the most recent version from a git repository but there is a very convenient short-cut available by just downloading the current snapshot, provided as a .zip file containing all the executables for windows.

So scroll down and find the link in the Link section:



-unpack the .zip to a directory of your choice: eg. C:\c64\cc65-snapshot-win32

-then you need to add the subdirectory '\bin' (e.g. C:\c64\cc65-snapshot-win32\bin) of this directory to the 'path'

Variable	Wert
AV_APPDATA	C: \Users \map \AppData \Roaming
Path	C:\Program Files\Intel\WiFi\bin\;C:\Prog
TEMP	%USERPROFILE%\AppData\Local\Temp
IMP	%USERPROFILE%(AppData/Local/Temp
	Neu Bearbeiten Löschen
Benutzervaria	Neu Bearbeiten Löschen
Benutzervaria	Neu Bearbeiten Löschen ble bearbeiten
Benutzervaria Name der Var	Neu Bearbeiten Löschen ble bearbeiten

Chapter three – getting the Loader

- download Krill's loader zip package from <u>http://csdb.dk/release/?id=118713</u> and unzip into the home directory in cygwin root folder (example: C:\cygwin64\home\map)

- due to an incompatibility with the newer/current versions of cc65 a patch is needed in the file (can be skipped with loader revision #156 and newer):

C:\cygwin64\home\map\loader\src\make-loadersymbolsinc.pl Many thanks goes to DJ Gruby for providing this information.

1. Open file "/loader/src/make-loadersymbolsinc.pl" for editing.

```
2. Change line 21 from:
if ($i =~ /list:/) {
to:
if ($i =~ /(?:Exports|Segment) list/) {
3. Change line 43 from:
if ($current_list =~ 'Exports list:') {
to:
if ($current_list =~ 'Exports list by (?:name|value):') {
4. Change line 51 from:
} elsif ($i =~ /(\w+)\s+(\w+)\s+\w+/) {
to:
```

} elsif (\$i =~ /(\w+)\s+(\w+)\s+\w+[^:]\$/) {

- although there is much more mentioned in the prerequisites.txt, the loader can now already be compiled

Chapter four – building the loader

-start the cygwin terminal

Cygwin64 Terminal

-navigate to /loader/src and execute the following line: make prg INSTALL=2000 RESIDENT=0800 ZP=10

```
~/loader/src
 nap@Marvin3 ~
 cd loader
map@Marvin3 ~/loader
$ cd src
map@Marvin3 ~/loader/src
$ 11
insgesamt 28K
                            0 29. Jan 20:56 decompress/
0 29. Jan 20:56 drives/
0 29. Jan 20:56 hal/
drwxr-xr-x+ 1 map None
drwxr-xr-x+ 1 map None
drwxr-xr-x+ 1 map None
drwxr-xr-x+ 1 map None
                            0 29. Jan 20:56 install/
  -xr-xr-x 1 map None 13K 28. Apr 2013 Makefile*
  wxr-xr-x 1 map None 2,0K 2. Feb 03:51 make-loadersymbolsinc.pl*
                            0 29. Jan 20:56 resident/
drwxr-xr-x+ 1 map None
 ap@Marvin3 ~/loader/src
  make prg INSTALL=2000 RESIDENT=0800 ZP=10
```

-Finally the result of the successful build can be found in C:\cygwin64\home\map\loader\build

Basically only three files are of interest install-c64.prg (in this example now @\$2000) loader-c64.prg (in this example now @\$0800) loadersymbols-c64.inc (for information only, where to find the entry calls for the init and loader as well as the used ZP addresses)

Chapter five - Configuration

The standard configuration might likely not fit in every case. All configuration options can be found in the file: C:\cygwin64\home\map\loader\include\config.inc

Modify as needed and run the make in /src again as explained above.

The loader gives a lot of options and features, therefore it would be a long task to describe a recipe for each possibility but as a first guidance I would **highly recommend** to follow the tutorials from DJ Gruby in Attitude #15, which can be downloaded from here: <u>http://csdb.dk/release/?id=133118</u>

These tutorials provide as well a very good example how to integrate and use the loader in the own production, which is a very good starting point.