Contents

MinGW Installation Manager (Win 32 Bit)

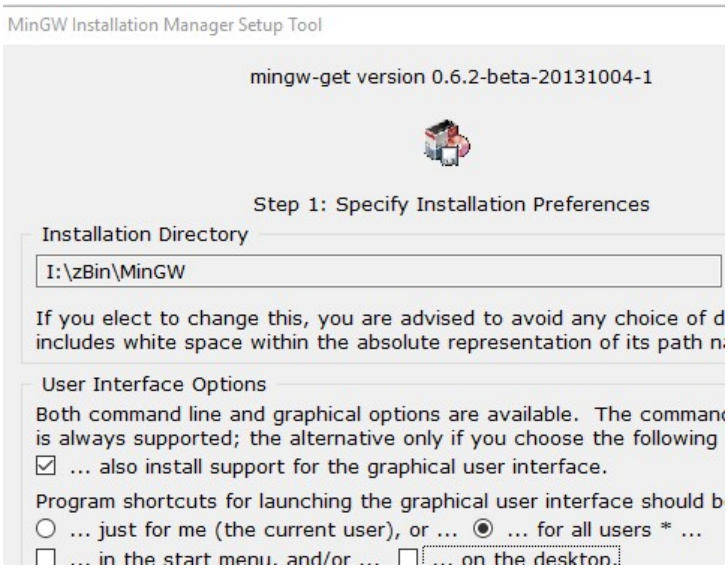
Based on: https://www.dosbox.com/wiki/Building_DOSBox_with_MinGW

We begin by installing the MinGW Installation Manager for 32 Bit. This program will allow us to install MinGW and MSYS packages. The MSYS packages provide the shell and the necessary command line tools, but we will not use the Installation Manager to install the MinGW compiler suite.

Download the MingGW Installation Manager setup:

- mingw-get-setup.exe

Run the installer ***as administrator***. Click the ***Install*** button to accept the license and continue.

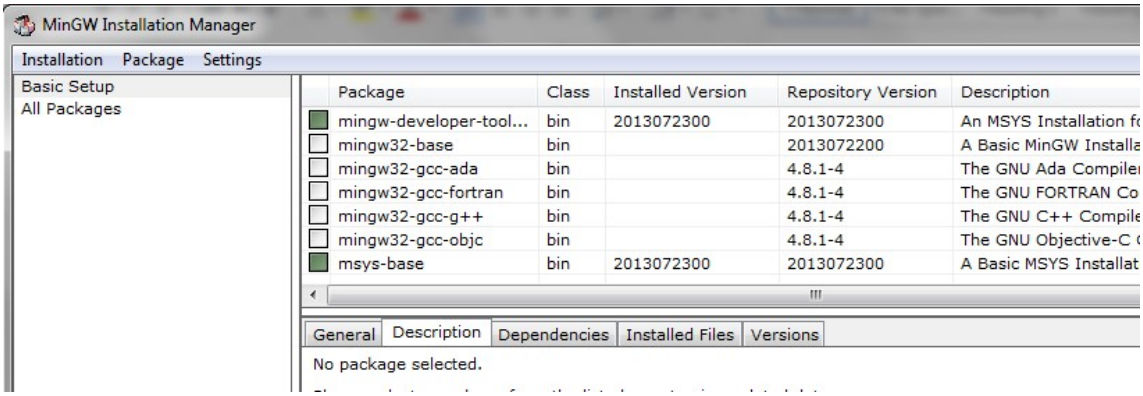


Specify the installation directory `I:\zBin\MinGW`. Review the other options and click the ***Continue*** button to begin the installation.

Wait until downloads and the installation has finished and click the ***Continue*** button.

Installing MSYS packages

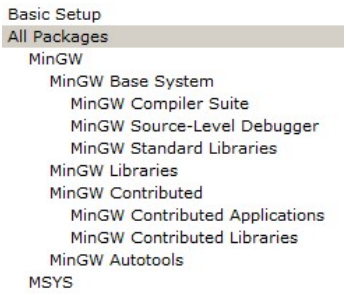
We use the MinGW Installation Manager to install MSYS packages. Package manager is located at `I:\zBin\MinGW\libexec\mingw-get\guimain.exe`.



Select ***Basic Setup*** on the left side of the screen. Check the following packages to install:

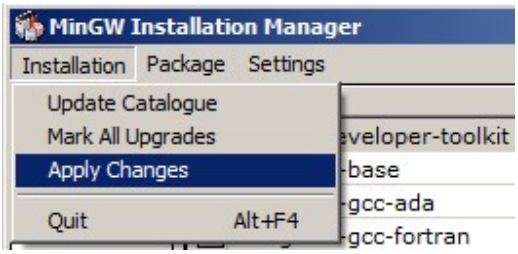
- `mingw-developer-toolkit`
- `msys-base`

Select *All* Packages:

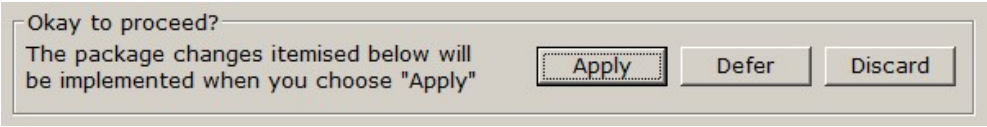


And select additional package

- `msys-rxvt` (class bin only)



Open the Installation menu and click ***Apply Changes***.

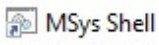


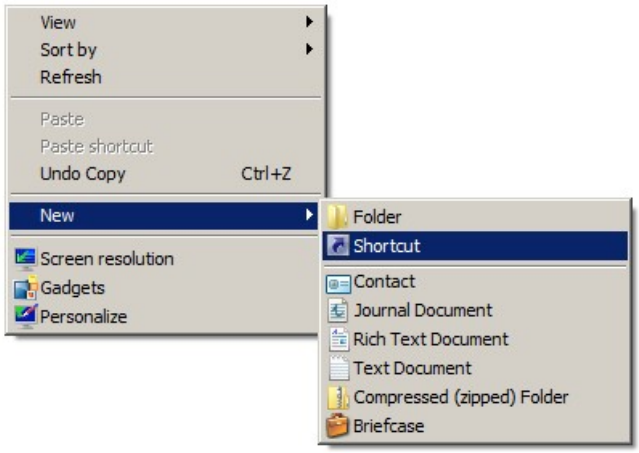
Click the ***Apply*** button.

Patiently wait for the installation to complete (it will take a couple of minutes).

Click the ***Close*** button upon completion, then close application.

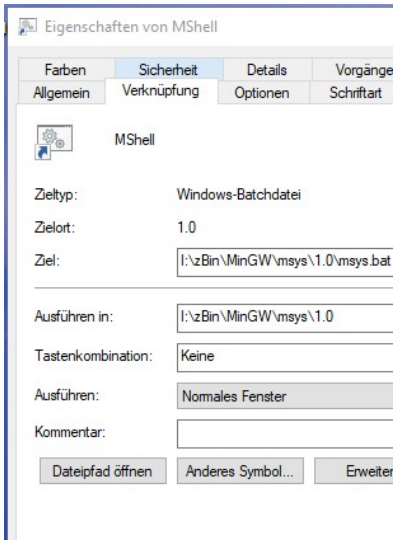
Creating a desktop shortcut

See `I:\DosBox` 



Next, we create a new shortcut to launch the MSYS shell. Click on the desktop with the right mouse button, select ***New -> Shortcut***.

Set the location to `I:\zBin\MinGW\msys\1.0\msys.bat`, and call it **MSYS Shell**.



Right-click on the new shortcut and open its properties. Edit it so it looks like this:

- Target: `I:\zBin\MinGW\msys\1.0\msys.bat --rxvt`
- Start in: `I:\zBin\MinGW\msys\1.0\bin`

Press the *OK* button.

Launch the MSYS Shell by double-clicking the shortcut.

You can paste clipboard text to the RXVT terminal with the **`shift+insert`** key combination, hence can copy the commands from this guide and paste them into the terminal window. If you use the mouse to select text in the RXVT window, it will be automatically copied to the clipboard as well.

MinGW Installation Manager (Win 64 Bit)

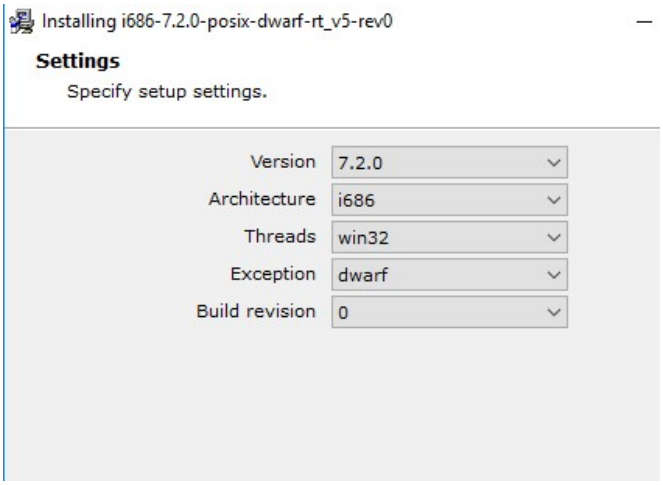
MinGW is a port of the GCC compiler to the win32 platform. MinGW-W64 adds 64-bit support and an improved window runtime. But.. DosBox does currently not support 64 Bit.

Before installing the compiler, a little bit of cleanup must be done: the MinGW Installation Manager has put many packages into `I:\zBin\MinGW\mingw32`, rename it to `I:\zBin\MinGW\mingw.old`.

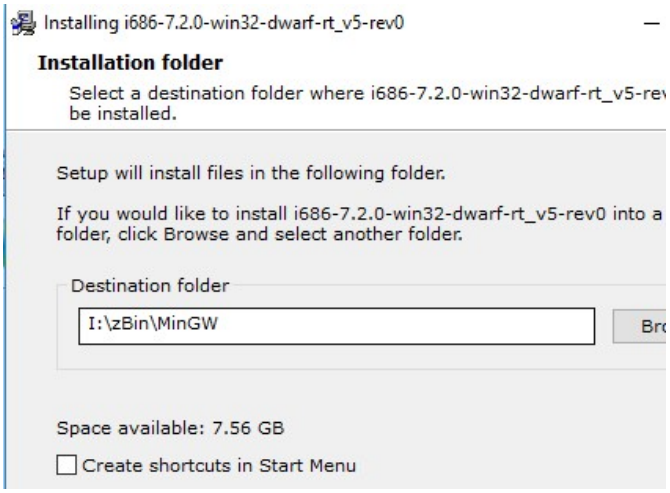
```
mv /u/zBin/MinGW/mingw32 /u/zBin/MinGW/mingw.old
```

Download mingw-w64-install.exe and call.

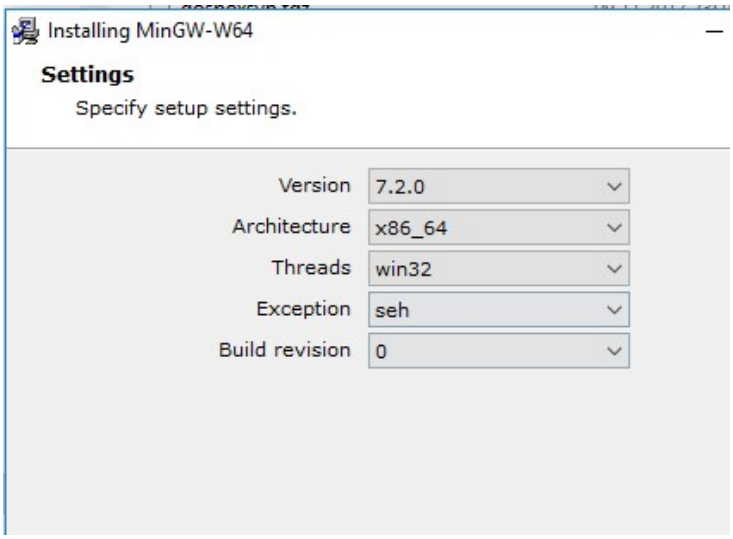
Install i686 code



to



Install x86_64 code to same directory



Please note: These packages support the win32 threading model and do not support C11 threading. Building GTK fails using the POSIX threading packages.

References:

- http://mingw-w64.sourceforge.net/download.php

Add base path to fstab

Open MSYS shell and copy lines below

```
mount 'I:\zBin\MinGW\' /mingw
mount 'I:\DosBox\' /sw
```

Create profiles

```
cat > 32bit<< "EOF"
#!/bin/sh
if [ -z "$OPATH" ]; then export OPATH=$PATH; fi
export PATH=$OPATH:".:/usr/local/bin:/mingw/bin:/mingw/mingw32/bin:/bin"
EOF
```

```
cat > 64bit<< "EOF"
#!/bin/sh
if [ -z "$OPATH" ]; then export OPATH=$PATH; fi
export PATH=$OPATH:".:/usr/local/bin:/mingw/bin:/mingw/mingw64/bin:/bin"
EOF
```

```
cat > mkdosbox<< "EOF"
#!/bin/sh
set -x
cp /local/bin/dosbox.exe $1
cp /local/bin/SDL.dll $1
cp /mingw/bin/libgcc_s_dw2-1.dll $1
cp /mingw/bin/libstdc++-6.dll $1
echo "Dosbox installed to $1"
EOF
```

```
cat > .profile<< "EOF"
source ~/32bit
alias 32bit='source ~/32bit && echo Environment changed to 32 bit compiler'
alias 64bit='source ~/64bit && echo Environment changed to 64 bit compiler'
alias mkdosbox='sh ~/mkdosbox $1'
EOF
```

Log off <CTRL><D> and open MSYS shell again.

Switching between 32-bit and 64-bit

```
source 32bit
source 64bit
```

Please note – current DoxBox version is only prepared for 32 bit. If you want to test 64bits then add command parameter below:

```
cd /sw
./configure … CXXFLAGS=-DMINGW_W64
```

Create SDL

Please note only version 1.2.15 is supported by DosBox (no version 2.x support). Download http://www.libsdl.org/download-1.2.php and unpack files to directory

```
cd /sw/SDL-1.2.15 && \
# for re-compilation purpose:
# make clean && \
./configure && \
make && \
make install && \
make clean
```

Direct Draw support to DOSBox (I could it not get to work)

If you want to give DOSBox the option to use the DDRAW output option, then we need to add a couple of extra libraries to MinGW

- Download the following file, http://www.libsdl.org/extras/win32/common/directx-devel.tar.gz
- Copy the downloaded file to your `C:\Tmp`
- Switch to the MSYS command prompt
- Extract the files (the -C parameter, tells tar where to extract the files to)

```
tar xvf /c/tmp/directx-devel.tar.gz -C /mingw
```

Prepare DosBox

Compare with patched version (without `.deps,*.o` and any `Makefile.*`)

Check `autogen.sh` for the lines

```
if ! grep -q printer.cpp ./src/hardware/Makefile.am; then
      echo "Add syncgw extension patches - part#1..."
      cat ./src/hardware/Makefile.am | sed --expression="s/ipx.cpp /ipx.cpp
printer.cpp /g" >./src/hardware/Makefile.tmp
      cp ./src/hardware/Makefile.tmp ./src/hardware/Makefile.am
fi
…
if [ -e ./config.h.in~ ]; then
      rm ./config.h.in~
fi
if ! grep -q syncgw ./config.h.in; then
      echo "Add syncgw extension patches - part#2..."
      echo "#include \"syncgw.h\"" >> ./config.h.in
fi
```

Create DosBox

```
cd dosbox-0.74-3 && \
# for re-compilation purpose:
# make clean && \
./autogen.sh && \
./configure --enable-core-inline LDFLAGS="-static-libgcc -static-libstdc++ -s" && \
make && \
make install && \
make clean
```

Install DosBox files

Create directory `C:\DosBox` if it does not exist.

```
mkdosbox /c/DosBox
```