

# LuaJIT, LuaRocks, Torch 7 のインストール

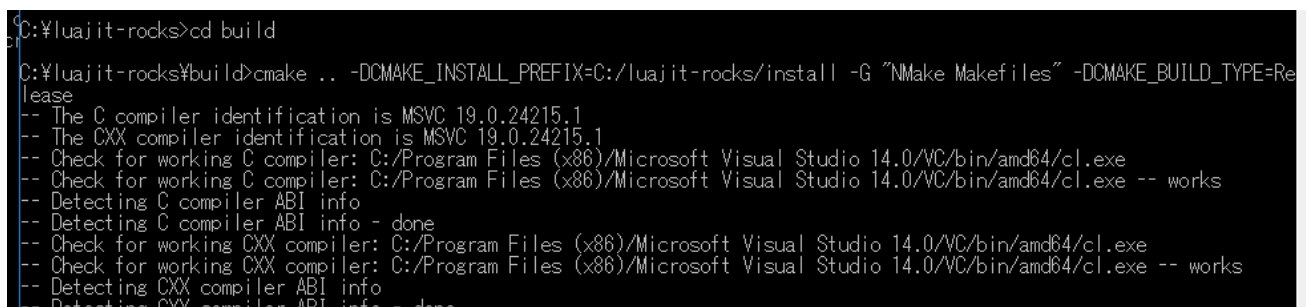
LuaJIT, LuaRocks, Torch7 の 64 ビット版を, Visual Studio を用いてビルドする.

謝辞: ここで紹介しているソフトウェアの作者に感謝します.

## 1. LuaJIT, LuaRocks のインストール

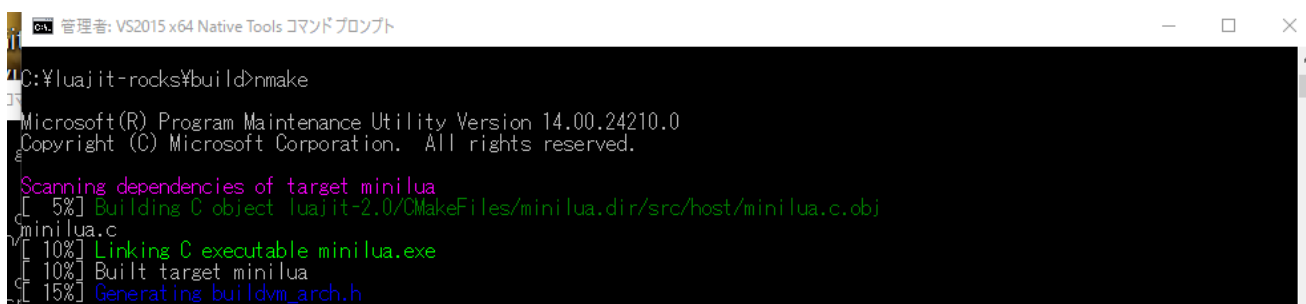
```
cd C:¥  
git clone https://github.com/torch/luajit-rocks.git  
cd luajit-rocks  
mkdir build
```

```
cd build  
cmake .. -DCMAKE_INSTALL_PREFIX=C:/luajit-rocks/install -G "NMake Makefiles" -  
DCMAKE_BUILD_TYPE=Release
```



```
C:¥luajit-rocks>cd build  
C:¥luajit-rocks¥build>cmake .. -DCMAKE_INSTALL_PREFIX=C:/luajit-rocks/install -G "NMake Makefiles" -DCMAKE_BUILD_TYPE=Release  
-- The C compiler identification is MSVC 19.0.24215.1  
-- The CXX compiler identification is MSVC 19.0.24215.1  
-- Check for working C compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/amd64/cl.exe  
-- Check for working C compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/amd64/cl.exe -- works  
-- Detecting C compiler ABI info  
-- Detecting C compiler ABI info - done  
-- Check for working CXX compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/amd64/cl.exe  
-- Check for working CXX compiler: C:/Program Files (x86)/Microsoft Visual Studio 14.0/VC/bin/amd64/cl.exe -- works  
-- Detecting CXX compiler ABI info  
-- Detecting CXX compiler ABI info - done
```

nmake



```
C:¥luajit-rocks¥build>nmake  
Microsoft(R) Program Maintenance Utility Version 14.00.24210.0  
Copyright (C) Microsoft Corporation. All rights reserved.  
Scanning dependencies of target minilua  
[ 5%] Building C object luajit-2.0/CMakeFiles/minilua.dir/src/host/minilua.c.obj  
minilua.c  
[ 10%] Linking C executable minilua.exe  
[ 10%] Built target minilua  
[ 15%] Generating buildym_arch.h
```

次のコマンドで 1 行

```
cmake -DCMAKE_INSTALL_PREFIX=C:/luajit-rocks/install -G "NMake Makefiles" -P  
cmake_install.cmake -DCMAKE_BUILD_TYPE=Release
```



```
C:¥luajit-rocks¥build>cmake -DCMAKE_INSTALL_PREFIX=C:/luajit-rocks/install -G "NMake Makefiles" -P cmake_install.cmake -DCMAKE_BUILD_TYPE=Release  
-- Install configuration: "Release"  
-- Up-to-date: C:/luajit-rocks/install/include/luacnf.h  
-- Up-to-date: C:/luajit-rocks/install/include/lua.h  
-- Up-to-date: C:/luajit-rocks/install/include/lauxlib.h  
-- Up-to-date: C:/luajit-rocks/install/include/lualib.h  
-- Up-to-date: C:/luajit-rocks/install/include/luahpp.h  
-- Up-to-date: C:/luajit-rocks/install/include/luajit.h  
-- Installing: C:/luajit-rocks/install/../lib/luajit.lib  
-- Installing: C:/luajit-rocks/install/../lib/luajit.dll  
-- Installing: C:/luajit-rocks/install/../luajit.exe  
-- Up-to-date: C:/luajit-rocks/install/luajit/bc.lua
```

```
C:\luajit-rocks\build>cmake -DCMAKE_INSTALL_PREFIX=C:/luajit-rocks/install -G "NMake Makefiles" -P cmake_install.cmake -DCMAKE_BUILD_TYPE=Release
-- Install configuration: "Release"
-- Installing: C:/luajit-rocks/install/include/luacnf.h
-- Installing: C:/luajit-rocks/install/include/lua.h
-- Installing: C:/luajit-rocks/install/include/lauxlib.h
-- Installing: C:/luajit-rocks/install/include/luilib.h
-- Installing: C:/luajit-rocks/install/include/luahelp.h
-- Installing: C:/luajit-rocks/install/include/luajit.h
```

## システム環境変数

LUA\_CPATH = **C:/luajit-rocks/install/?; C:/luajit-rocks/install/LIB/?; .**

LUA\_DEV = **C:/luajit-rocks/install**

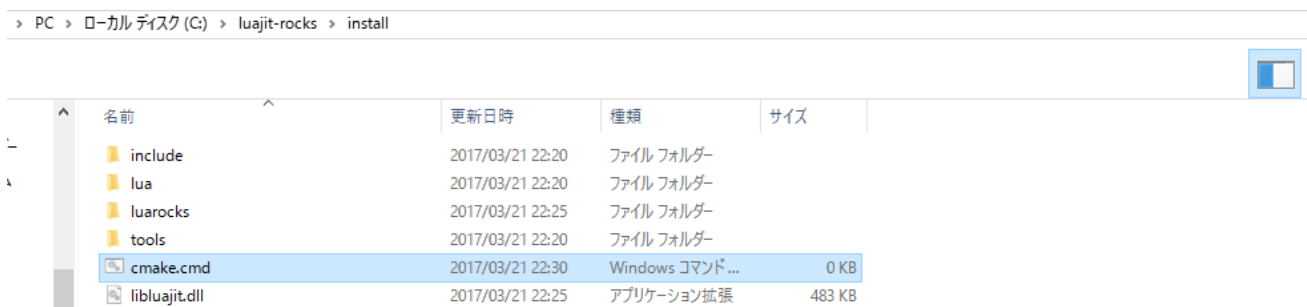
LUA\_PATH = ; ; **C:/luajit-rocks/install/?; C:/luajit-rocks/install/lua/?; C:/luajit-rocks/install/lua/?; C:/luajit-rocks/install/lua/?/init.lua**

システム環境変数 PATH の末尾に **C:¥luajit-rocks¥install**

を追加

## 2. Torch のインストール

C:¥luajit-rocks¥install¥cmake.cmd を作成



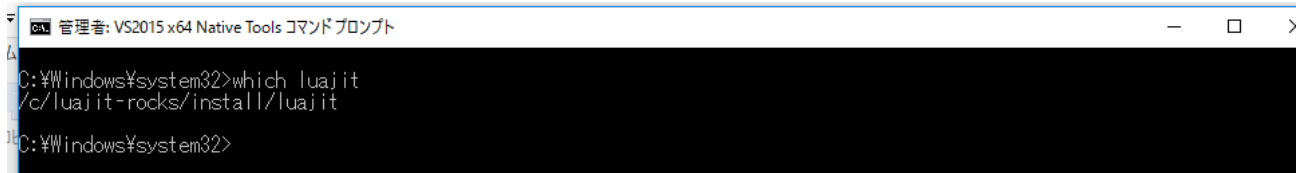
```
if %1 == -E (
cmake.exe %*
) else (
cmake.exe -G "NMake Makefiles" -DCMAKE_LINK_FLAGS:implib=libluajit.lib -DLUALIB=libluajit %*
)
```

※ あとで次のようなエラーが出るのを回避するため.

```
C:\luajit-rocks\torch>luarocks make ../torch-scm-1.rockspec
Missing dependencies for torch:
paths >= 1.0
cwrap >= 1.0
Using https://raw.githubusercontent.com/torch/rocks/master/paths-scm-1.rockspec... switching to 'build' mode
Cloning into 'paths'...
remote: Counting objects: 18, done.
remote: Compressing objects: 100% (16/16), done.
receiving objects: 11% (2/18)
Receiving objects: 100% (18/18), 14.46 KiB | 0 bytes/s, done.
cmake -E make_directory build && cd build && cmake .. -DCMAKE_BUILD_TYPE=Release -DLUALIB=libluajit.lib -DLUA_INCDIR="C:/luajit-rocks/install/include" -DLUA_LIBDIR="C:/luajit-rocks/install/" -DLUADIR="C:/luajit-rocks/install/luarocks/paths/scm-1/lua" -DLIBDIR="C:/luajit-rocks/install/luarocks/paths/scm-1/lib" -DCMAKE_INSTALL_PREFIX="C:/luajit-rocks/install/luarocks/paths/scm-1" && nmake
指定されたパスが見つかりません。
Error: Failed installing dependency: https://raw.githubusercontent.com/torch/rocks/master/paths-scm-1.rockspec - Build e
Error: Failed building.
C:\luajit-rocks\torch>
```

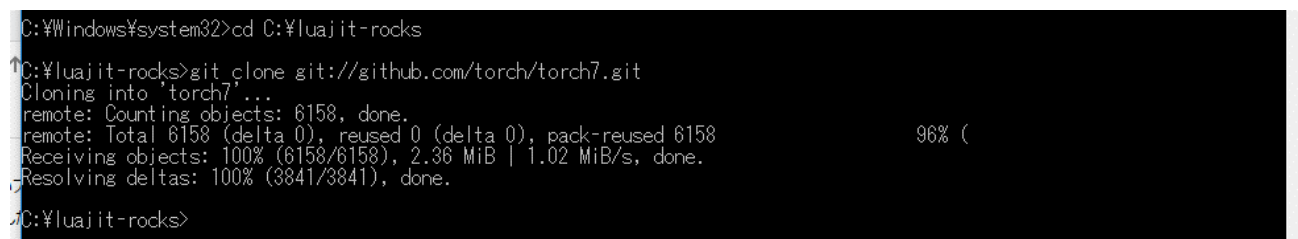
環境変数を変更したので、再度、VS2015 x64 Native Tools Command Prompt を管理者として実行。確認のため次のコマンドを実行。

which luajit



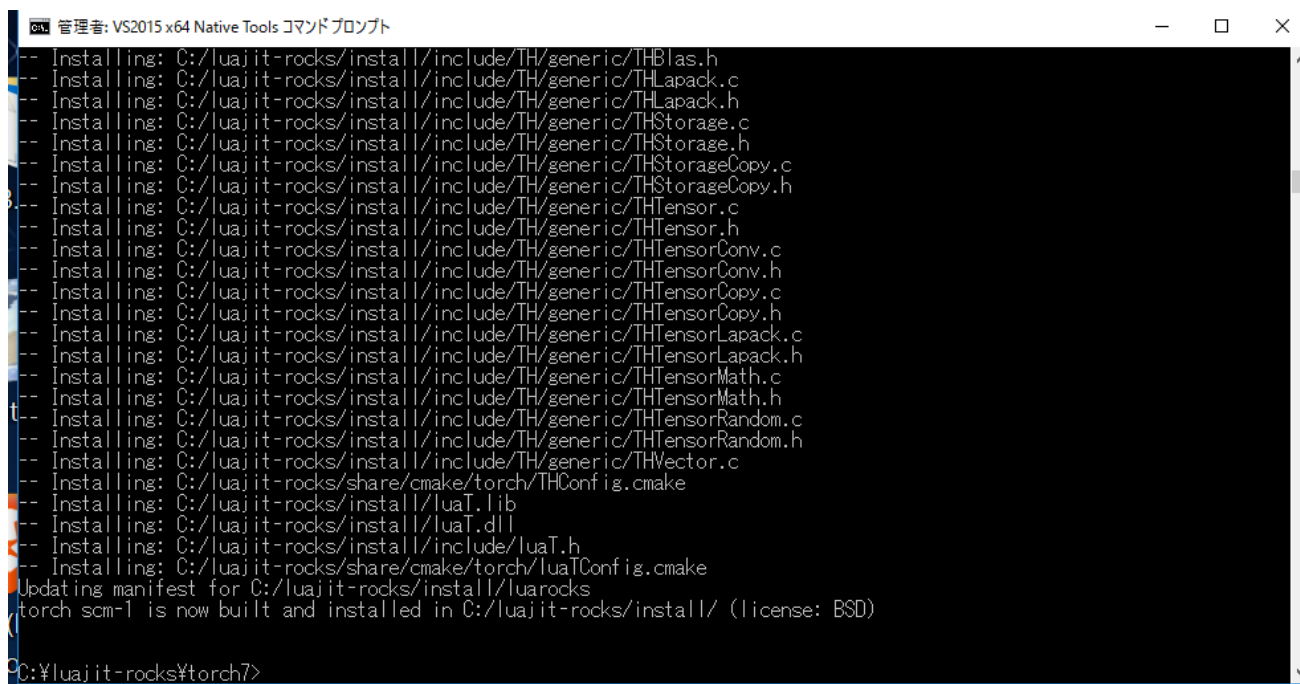
```
管理者: VS2015 x64 Native Tools コマンドプロンプト
C:\Windows\system32>which luajit
/c/luajit-rocks/install/luajit
C:\Windows\system32>
```

```
cd C:\luajit-rocks
luarocks download torch
git clone git://github.com/torch/torch7.git
```



```
C:\Windows\system32>cd C:\luajit-rocks
C:\luajit-rocks>git clone git://github.com/torch/torch7.git
Cloning into 'torch7'...
remote: Counting objects: 6158, done.
remote: Total 6158 (delta 0), reused 0 (delta 0), pack-reused 6158          96% (
Receiving objects: 100% (6158/6158), 2.36 MiB | 1.02 MiB/s, done.
Resolving deltas: 100% (3841/3841), done.
C:\luajit-rocks>
```

```
cd torch7
luarocks make ..\torch-scm-1.rockspec
```



```
管理者: VS2015 x64 Native Tools コマンドプロンプト
-- Installing: C:/luajit-rocks/install/include/TH/generic/THBlas.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THLapack.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THLapack.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THStorage.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THStorage.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THStorageCopy.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THStorageCopy.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensor.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensor.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorConv.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorConv.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorCopy.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorCopy.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorLapack.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorLapack.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorMath.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorMath.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorRandom.c
-- Installing: C:/luajit-rocks/install/include/TH/generic/THTensorRandom.h
-- Installing: C:/luajit-rocks/install/include/TH/generic/THVector.c
-- Installing: C:/luajit-rocks/share/cmake/torch/THConfig.cmake
-- Installing: C:/luajit-rocks/install/luat.lib
-- Installing: C:/luajit-rocks/install/luat.dll
-- Installing: C:/luajit-rocks/install/include/luat.h
-- Installing: C:/luajit-rocks/share/cmake/torch/luatConfig.cmake
Updating manifest for C:/luajit-rocks/install/luarocks
torch scm-1 is now built and installed in C:/luajit-rocks/install/ (license: BSD)
C:\luajit-rocks\torch7>
```

Visual Studio を起動し、次のように操作する。

- (1) Visual Studio で, Create a new task
- (2) Go to Settings -> Startup -> Tasks and create a new task.
- (3) Name it "VS2015 x64" or something
- (4) add the following string as the startup command (replace the project path with whatever you

have):

```
cmd /k ""%VS140COMNTOOLS%..\..\VC\vcvarsall.bat" amd64 &  
"%ConEmuDir%\..\init.bat"" -new_console:d:"X:%work":t:"VS2015 x64"
```

※ これ全体で1行です。

Create a new task for Torch: Go to Settings -> Startup -> Tasks and create a new task. Name it Torch or something and add the following string as the startup command (replace the paths with whatever you are going to use): X:%torch%\install\luajit.exe -new\_console:d:"X:%work%\torch\_projects":t:"Torch"