Installation Guide for



for Seismic Unix (John Stockwell)

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## 

# Installation Background and Prerequisites

## Tested operating systems

All the installation steps have been tested on new, blank systems and have worked without any errors and are the recommended simplest paths to installing the software.

|  |  |
| --- | --- |
| **Linux operating system** | **Version tested** |
| CentOS | 7.7.2003. \*.2.2004 and 8 |
| Debian | 10 (buster) |
| Ubuntu | 18.04.3 and 20.x |
| RedHat | 6.9 |
| Cygwin/Microsoft Windows | 10 with cygwin-3.1.7 |

Across all OS’s, most installation problems occur usually when the environment variables are not properly set. The following installation guide may seem extensive because we try to include many of the available operating systems.

One issue you may note is that ‘end-of-line termination indicators’ differ between Linux systems and Windows. These codes are invisible to the user when editing, but cause errors. If you see errors like that contain confusing messages which include “\r” then you have encountered the issue. A solution is to open the text file in an editor. **Notepad++,** or **vim**, are two examples of text editors that can change the codes for you. In Notepad++ there is a menu option to perform the change using a mouse click or two. In **vim** manually set the file format to “unix: with the following command:

:set ff=unix

## Definition of system variables in your computer work environment

Note for example, that **CWPROOT** is a directory path where the C programs that belong to Seismic Unix are usually installed. In the next Linux example, this path = “**/usr/local/pl/cwp\_su\_all\_44R19**”

If you do not have permission to change your local “**.bashrc**” file then ask your systems manager to make some arrangement that will allow your local “**.bashrc**” file to pointing to a system-wide file that only the administrator control, in which case you can add the following line to your local ”**.bashrc**” file:

source /PATH/bashrc\_system

But, you will need to know what ‘PATH’ is and what ‘bashrc\_system’ means. If this sounds confusing, see your administrator or write to me at [gllore@lsu.edu](mailto:gllore@lsu.edu).

### Cygwin/Microsoft Windows

For the Windows example, I have to add several new lines of instructions within my file “**.bashrc”** file, which is located in my home directory:

# cygwin directory

cygwin=/cygdrive/c/cygwin64

export LOCAL=$cygwin/usr/local

export PL=$LOCAL/pl

# for Seismic Unix

export CWPROOT=$LOCAL/cwp\_su\_all\_44R19

## Useful Operating system software

* **evince**
* **ncftp**

### Cygwin/Microsoft Windows

We have successfully tried **cygwin**, a linux environment emulator for Windows. When we install **cygwin** we take a minimalist approach by, installing only the smallest system, and adding essential elements later, manually.

#### Libraries

Use **setup-x86\_64** to install libraries:

* Perl-Log-Log4Perl
* **libnetpbm-devel**
* **libnetpbm10**
* **libgcc1**
* **libgd-devel**
* **libtirpc-devel**
* **libQtOpenGL4**
* **libQtOpenGL4-devel**
* **libXaw-devel**
* **libXaw7**
* **libX11-devel**
* **libcrypt-devel**
* libglut
* libglut-devel
* libXi6 and libXi-devel
* libGL1
* libGL-devel
* libGLU-devel
* libGLU1
* libXm-devel

#### General packages

Use **setup-x86\_64** to install the following:

##### To aid in compilation of imported codes

* make
* gcc-core
* **gcc-g++**
* **gcc-fortran**
* **rpcbind**
* curl

##### For running a windowed environment

* xinit
* xorg-server
* gnome-flashback
* xlaunch

##### For general text editing

* vim

##### Net utilities

* ncftp

##### For viewing postscript files

* evince (may have problems—do check)

## Clone Seismic Unix for Cygwin/Microsoft Windows

Run the following instructions individually and in sequence from the command line, or place the following instructions into a script, e.g., **“clone\_SU.sh”** as follows:

#!/bin/bash

# my name is clone\_SU.sh

# cygwyn directory

cygwyn=/cygdrive/c/cygwin64

# give a name to directory

installation\_directory\_for\_SU=$cygwyn/usr/local/cwp\_su\_all\_44R19

# create installation directory

mkdir $installation\_directory\_for\_SU

# move into the installation directory

cd $installation\_directory\_for\_SU

# change into the installation directory

cd $installation\_directory\_for\_SU

# clone

git clone <https://github.com/JohnWStockwellJr/SeisUnix>

# move files from one directory into the current directory

mv SeisUnix/\* ./

mv SeisUnix/.\* ./

git status

In order to execute the script contained in **“clone\_SU.sh”:**

% sh clone.sh

### Preparation of Makefile.config

Please follow the instructions in all the **“README**” files but first make the following changes to the

“/usr/local/cwp\_su\_all\_44R19/src/**Makefile.config**”:

IX11 = /usr/include/X11

LX11 = /usr/lib

IMOTIF = /usr/include/Xm

LMOTIF = /usr/lib

### Compilation and installation

Stay in the current directory:

“/usr/local/cwp\_su\_all\_44R19/src” and run the following commands one at a time:

make install

make xtinstall

make xminstall