A collection of Bash scripts

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1. Description

1.1. Execute a command as another user with: sudox

`sudox` (`sudo` for X) is a Bash script that executes commands under X in UNIX and LINUX on behalf of another user using sudo. It provides the necessary privileges using xauth over a pipe. I use it for example to execute firefox as a different user with low privileges.

Usage:

```
 > sudox -u <other_user> <command>
```

Example:

```
 > sudox -u mynobody firefox
```

`sudox` has the same function than the discontinued `sux` command that was distributed formely as a package in Debian and Ubuntu.

Installation:

To avoid that `sudox` is asking you for a password twice, consider adding a line like `%users LOCAL=(mynobody) NOPASSWD:ALL` to `/etc/sudoers`.

Create a file `/usr/local/bin/sodux` with the following content:

```
if  [ $# -lt 3 ] || [ $1 != "-u" ]
then echo "usage: `basename $0` -u <clientuser> <command>" >&2
     exit 2
fi
shift

CLIENTUSER="$1"
CLIENTHOME=$(grep "^$CLIENTUSER:" /etc/passwd|cut -d: -f 6)
shift

# FD 4 becomes stdin too
exec 4>&0

xauth -b nlist "$DISPLAY" | {

    # FD 3 becomes xauth output
    # FD 0 becomes stdin again
    # FD 4 is closed
    exec 3>&0 0>&4 4>&-

    exec /usr/bin/sudo -H -u "$CLIENTUSER" \
          /usr/bin/xauth -f "$CLIENTHOME"/.Xauthority nmerge - <&3
}

exec echo "env DISPLAY=$DISPLAY XAUTHORITY=${CLIENTHOME}/.Xauthority $*" \
    | sudo  -i -u "$CLIENTUSER"
```

References:

Remote X Apps mini-HOWTO[1]

What is a good alternative to the sux command?[2]

[1] http://www.tldp.org/HOWTO/pdf/Remote-X-Apps.pdf
[2] https://askubuntu.com/questions/428284/what-is-a-good-alternative-to-the-sux-command#462848

1.2. Incremental encrypted backups with: afio, secbak and secrest

`secbak` and `secrest` are scripts that uses `afio` a `cpio` replacement for assembling files to an archive. The scripts implements incremental multi-volume backups and restore. Unlike with `tar`, files are compressed individually and can be optionally encrypted. This makes the archive more robust in case of read errors.

1.3. Publish only sub-trees tagged as: PUBLIC

`publish_only_PUBLIC_subtrees.sh` is a Bash script that reconstructs parts of a UNIX or LINUX directory tree using symbolic links. I use it in order to to collect selected assets of my hard disk on a web server. Only files and directories within folders named `PUBLIC` are published.

First we rebuild the directory structure of `SOURCEROOT` under `DESTROOR`. Our leaves will be all parent directories containing a directory named `PUBLIC`:

```
#echo -e \\n \\n Base of new tree is $DESTROOT
cd "$SOURCEROOT"
find  -L . -name "PUBLIC" -type d -prune -print0 \
     |sed  -e 's/\PUBLIC//g' \
     |xargs -0 -i{} mkdir --parents "$DESTROOT/{}"
#we need -prune to cope with nested PUBLIC dirs
```

Then link everything inside the `PUBLIC` directory into the above created leaves. This uses nested `find` commands and symbolic links:

```
cd "$SOURCEROOT"
find -L . -name "PUBLIC" -type d  -prune -print0 \
    |sed -e 's/\/PUBLIC//g' \
    |xargs -0 -i{2}  find  "$SOURCEROOT/{2}/PUBLIC/" -mindepth 1 -
maxdepth 1 \
        -exec  ln -s "{}" "$DESTROOT/{2}" \;
#  we need -prune to cope with nested PUBLIC dirs
```

The resulting tree only contains braches where the original tree `SOURCEROOT` has `PUBLIC` directories, while ommitting them in the copy in `DESTROOT`.

1.4. Relative symbolic links with: lnr -s

`lnr -s` is a Bash script which creates symbolic links with the same syntax as the UNIX command ln -s. Unlike ln -s it searches the shortest relative path between the source and destination and creates the link with a relative path. Most of the time symbolic links are very short in distance and used mainly to reduce redundancy. The advantage of relative symbolic links is that whole branches can be moved without breaking links. If you do so, please make sure that branch you want to move does not does not contain relative links pointing outside the moving branch.

2. Download

The scripts are packed in an zip-archive you can download here[3].

[3] ./bash-scripts.zip