How to install Odysseus

This is a short tutorial that shows how to install Odysseus and how to setup the first time. This tutorial is for persons who just want to use Odysseus for data stream management. For those, who want to develop with Odysseus (e.g. create new operators or extend functionalities), may have a look at Development with Odysseus, which introduces how to import Odysseus into Eclipse.

1. Prerequisite

First, Java 8 (also known as Java 1.8) must be installed, which you can download here: http://www.java.com.

Mac OS User see here

2. Download Odysseus

Go to Odysseus Website to the Download section. Choose the Version for your operating system in a 64 or 32 bit version. In our case, we have a 64 bit Windows 10 so that we choose Windowx x86 64 bit. Download the archive.

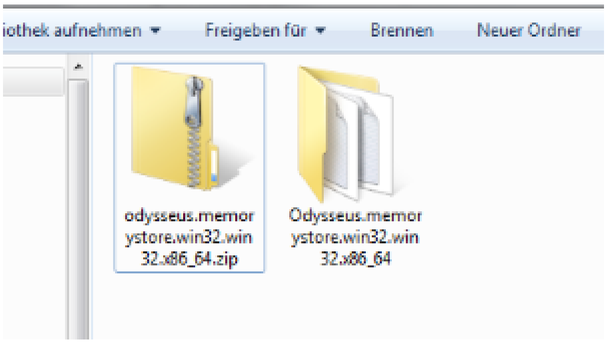
3. Unzip

Next, you have to unzip the archive. There is no installer nor a dedicated installation directory. Thus, you can choose a destination of your choice (In some cases, Odysseus does not behave correctly, if the installation path is to long. In this case try to install Odysseus to another location).

Remarks:

- If you want to use the update feature, do not install Odysseus in a shared folder.
- Under windows: Do not use folder "program files".
- **Important:** Do not use an existing directory, e.g. from an older Odysseus installation! If you want to update, see How to update Odysseus.

After unpacking, you may have something like the following:


iothek aufnehmen ▾
Freigeben für ▾
Brennen
Neuer Ordner
odysseus.memorystore.win32.win32.x86_64.zip
Odysseus.memorystore.win32.win32.x86_64

4. Start Odysseus

Run "studio.exe" to start Odysseus.

Remark:

- As studio is an Eclipse based application you can raise the memory the same way:
- If an error occurs at start, try to execute `java -version` on a console to see if the right Java version is installed and reachable.

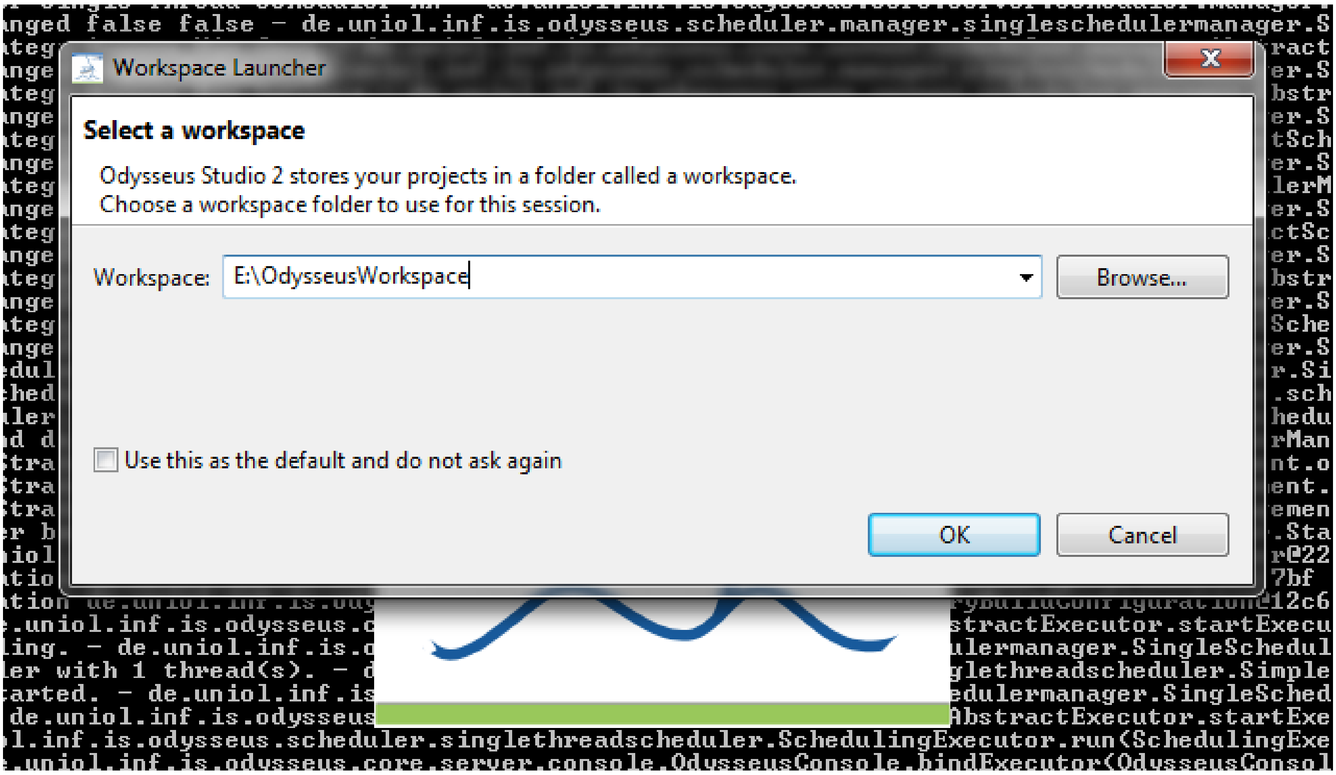
In studio.ini:

```
-startup
plugins/org.eclipse.equinox.launcher_1.3.100.v20150511-1540.jar
--launcher.library
plugins/org.eclipse.equinox.launcher.win32.win32.x86_64_1.1.300.
v20150602-1417
-console
-clean
-nl
en
-data
@noDefault
-vmargs
-Xms1000M
-Xmx1000M
-Dsysredirect=true
-Declipse.p2.mirrors=false
-Declipse.log.level=ERROR
```

change Xms and Xmx to the needed values. Default is 1000M.

5. Choose Workspace

At the first start, you have to choose a workspace. This workspace is a directory where all Odysseus projects will be stored.You can also check the "Use this as the default.." option so that this dialog will not pop up at the next start of Odysseus.



Workspace Launcher

Select a workspace

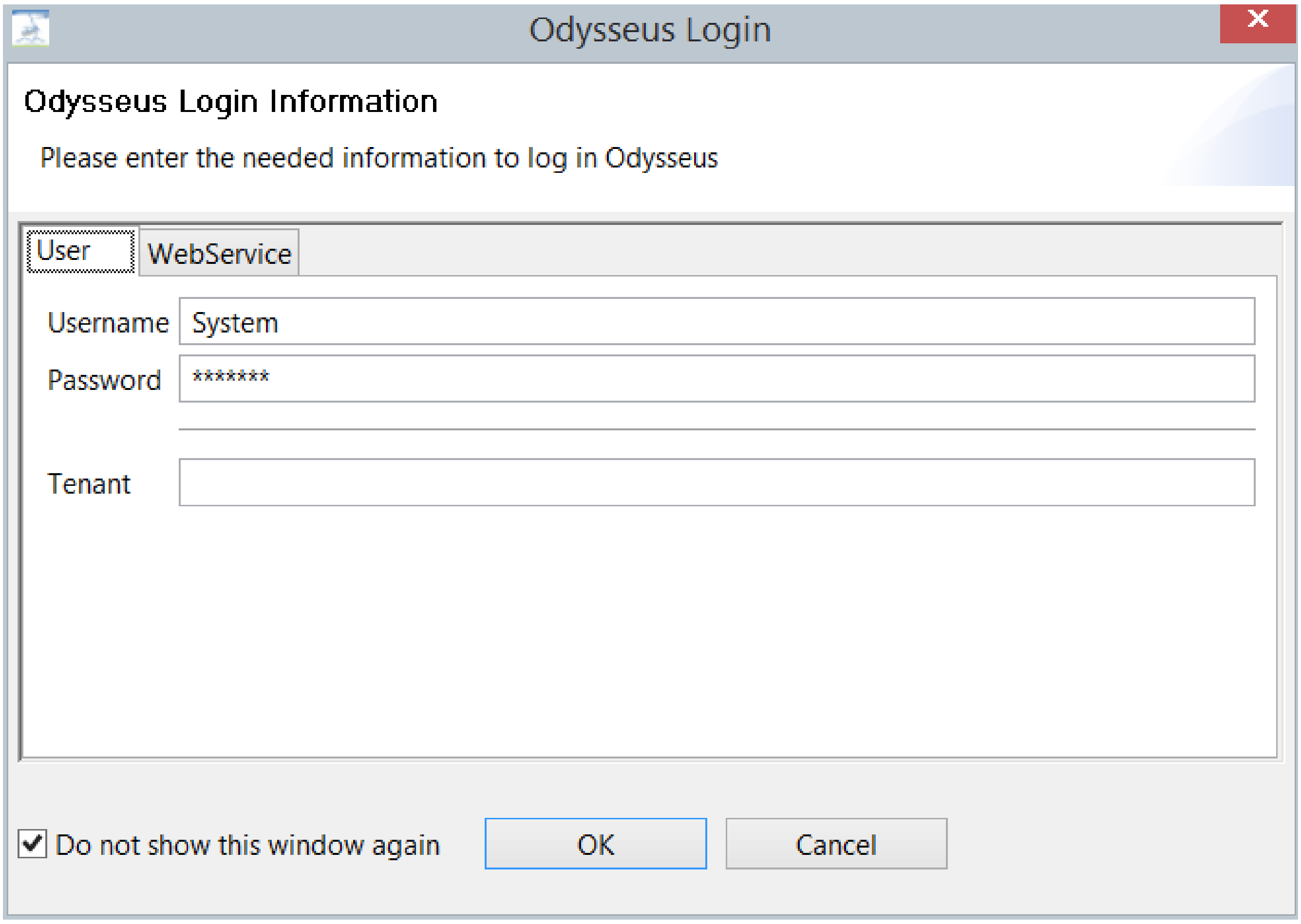
Odysseus Studio 2 stores your projects in a folder called a workspace.
Choose a workspace folder to use for this session.

Workspace: E:\OdysseusWorkspace

☐ Use this as the default and do not ask again

6. Login

Next, Odysseus asks you for a user and a password. The default user is "System" with password "manager". You can also check "Login automatically" so that username and password is saved and used automatically at the next start so you don't have to type in your login data again. In some cases there may be a field "Tenant". For most cases this field should be empty.



Odysseus Login

Odysseus Login Information

Please enter the needed information to log in Odysseus

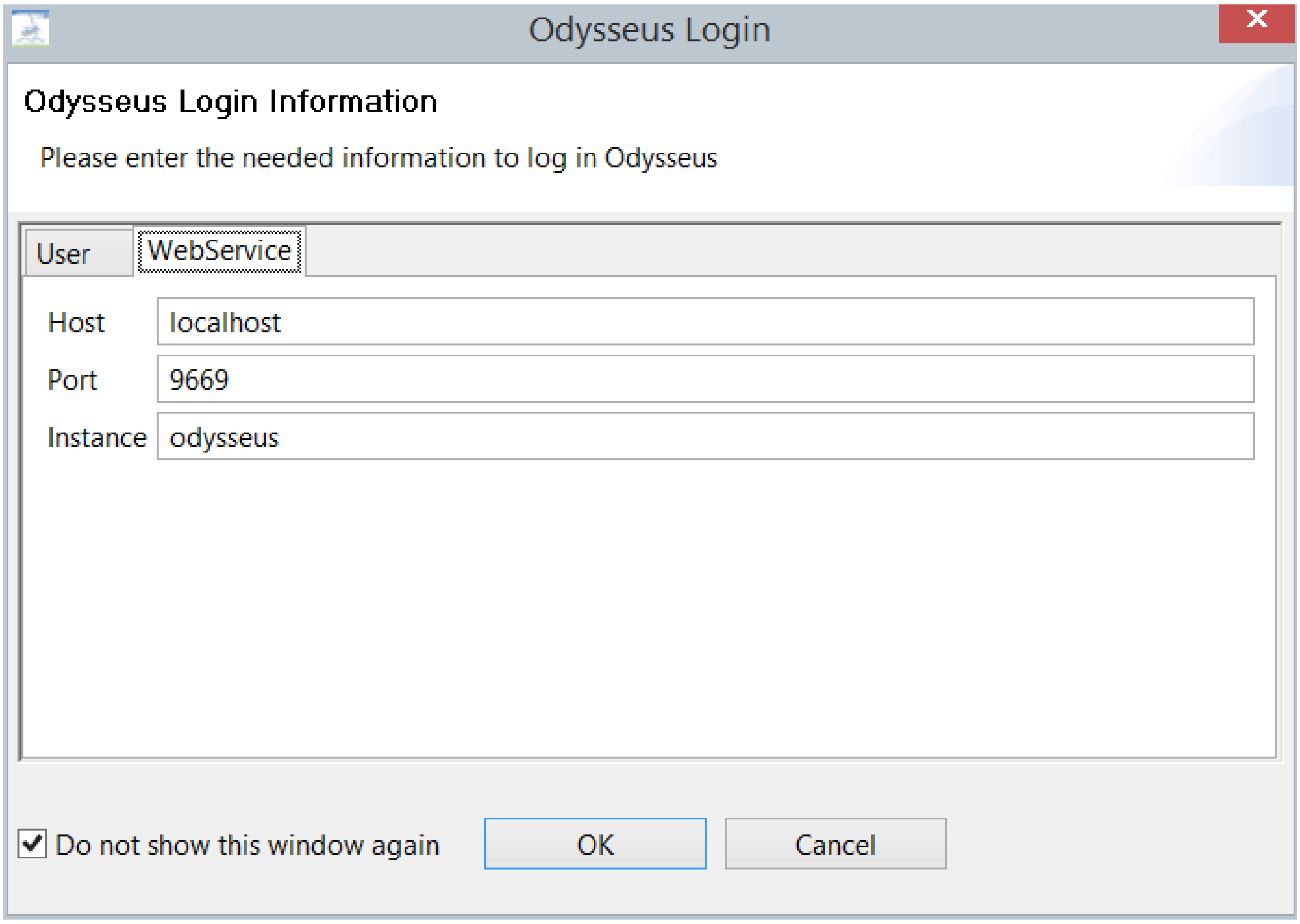
Username: System

Password: *******

Tenant:

☑ Do not show this window again

If you are using the client version of studio, the WebService tab must contain information about the Odysseus Server:



Odysseus Login

Odysseus Login Information

Please enter the needed information to log in Odysseus

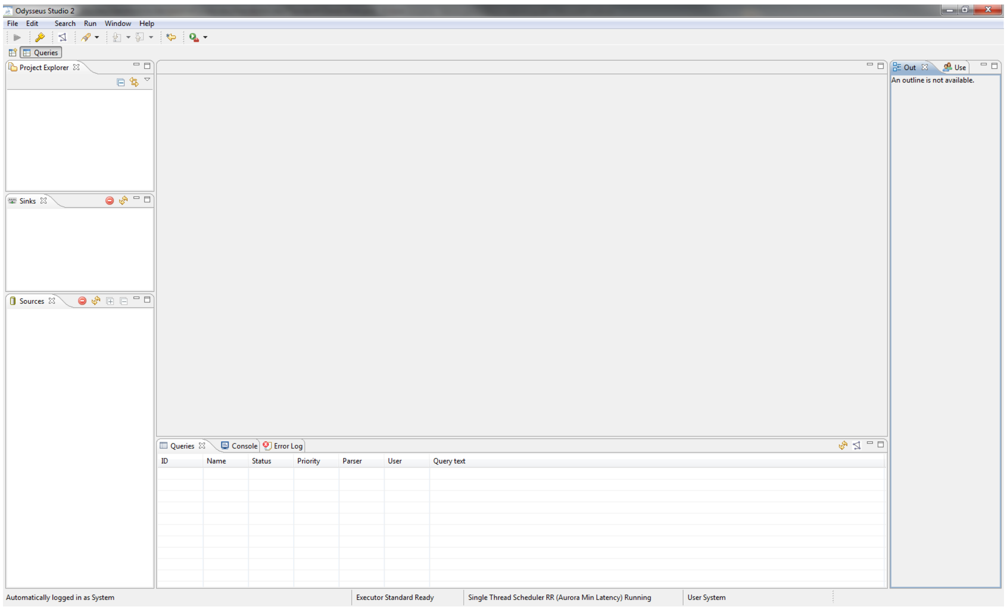
Host: localhost

Port: 9669

Instance: odysseus

☑ Do not show this window again

After that, Odysseus Studio starts, so you should the the interface:



An outline is not available.

Automatically logged in as System

Executor Standard Ready

Single Thread Scheduler RR (Aurora Min Latency) Running

User System

That's all.

7. Next steps

You now can use Odysseus. Now, you can, for example, make yourself familiar with Odysseus Studio or you may create or import projects. For further steps, you may have a look at these pages:

- Odysseus Studio introduces the interface, views and commands
- Run Nexmark Example shows a tutorial how to run an example that is based on the Nexmark benchmark, including a data generator.
- Hands on Data Stream Processing shows different tutorials how Odysseus can be used in different projects - including special hardware

A. Hints if installation/start fails

- Java 1.7 (or sometimes called Java 7) has to be used. Although Java 1.7 was installed, it may happen that Java 1.6 is still used. Therefore, check if 1.7 is used. Check also, if JAVA_HOME is set correctly.
  - On windows, you can check the version by open the command line to tool (go on "start", and "run" and enter "cmd", then press OK. In the command line enter "java -version" and hit enter. You should see some lines beginning with "java version "1.7.XXXX". if command is not found or another version is shown, check your Java installation.
  - On MacOS X, you may look at "B. Mac OS X and Java 1.7" in the next section.

- Be sure you downloaded the x86_64 version if you have a 64 bit operating system or the x86 version if you have a 32 bit operating system.

B. Mac OS

To run Odysseus from the pre-compiled packages available to download you have to do the following steps.

1. Download and install Java 8 from Oracle (/usr/libexec/java_home -t BundledApp shut output a Java 8 version)
2. Download Odysseus from our homepage
3. Open the terminal (e.g. with spotlight)
4. Direct to the odysseus-folder, navigate to ../Contents/Eclipse/
5. Run the following command:

Run Odysseus under MacOS

```
java -XstartOnFirstThread -Xmx500M -Xms500M -Declipse.p2.mirrors=false -
jar plugins/org.eclipse.equinox.launcher_1.3.100.v20150511-1540.jar --
launcher.library org.eclipse.equinox.launcher_1.3.100.v20150511-1540 -
console -nl en -debug -data @noDefault -showsplash de.uniol.inf.is.
odysseus.rcp.base -Dorg.eclipse.swt.internal.carbon.smallFonts -clean
```

C. Installation under Linux

Odysseus should be installed for a single user. The user that starts the server process must have all rights to the installtion directory, else no new features can be installed and no features can be updated.

To run Odysseus you need a Java runtime environment in version 7.

Debian

```
sudo aptitude install default-jre
```

Download and unzip the Odysseus package to your local bin folder

```
mkdir –p ~/bin
wget –c http://odysseus.offis.uni-oldenburg.de/download/studio/stable
/serverandstudio/odysseus.serverandstudio.gtk.linux.x86_64.zip -O ~/bin
/odysseus.zip
unzip odysseus.zip –d ~/bin
```

Add the Odysseus folder to your PATH variable

```
export PATH=~/bin/odysseus:$PATH
```

D. Running Odysseus Server on Raspberry Pi, Beagleboard Black Rev C

The Odysseus server component works on a Raspberry Pi. Simple install a recent raspian first.

You should use a distinct user for odysseus.

After that, you should update/upgrade the system and install JavaJRE:

```
sudo apt-get update
sudo apt-get upgrade
sudo apt-get install openjdk-7-jre
```

Tip: With the console-command `raspi-config` you can configure your RaspberryPi/BananiPi further (e.g. keyboard layout)

The following script will download and install Odysseus as a server-component

```
wget http://odysseus.offis.uni-oldenburg.de/download/products/server
/lastBuild/odysseus.server.gtk.linux.x86.zip
unzip odysseus.server.gtk.linux.x86.zip
```

Alternatively, if multiple Odysseus-Instances should be connected (Peer-to-Peer-Network of RaspberryPi), you should download the Peer-Version of Odysseus:

```
wget http://odysseus.offis.uni-oldenburg.de/download/products/peer
/lastBuild/odysseus.peer.gtk.linux.x86.zip
unzip odysseus.peer.gtk.linux.x86.zip
```

The following script will execute Odysseus (Server-Version) with respect to restarts due to possible future updates (downloadable: http://odysseus.informatik.uni-oldenburg.de/download/products/server/startOdysseusServer)

```
wget http://odysseus.informatik.uni-oldenburg.de/download/products
/server/startOdysseusServer
chmod +x startOdysseusServer
```

```
#!/bin/bash

cd odysseus.server.gtk.linux.x86

while true; do
        java -Xmx500M -Xms500M -Declipse.p2.mirrors=false -jar plugins
/org.eclipse.equinox.launcher_1.3.100.v20150511-1540.jar -console -
debug -data @noDefault
        if [ "$?" != "23" ]; then
                break
        fi
done
```

Attention: If you downloaded and installed the Peer-Version of Odysseus, you have to replace "server" with "peer" in the 3rd line (or download it from http://odysseus.informatik.uni-oldenburg.de/download/products/peer/startOdysseus).
Attention: The script-file must be made executable with `chmod +x startOdysseus`

```
wget http://odysseus.informatik.uni-oldenburg.de/download/products/peer
/startOdysseus
chmod +x startOdysseus
```

For the standard Beagle board "unzip" and "java" must be installed:

```
apt-get update
apt-get install unzip
apt-get install openjdk-7-jre
// If multiple java versions are installed: choose the jdk to use. Must
be at least java 7
update-alternatives --config java
```

Start same as above the raspberry.

Further devices tested:

- Cubiboard use e.g. http://www.igorpecovnik.com/2013/12/24/cubietruck-debian-wheezy-sd-card-image/
- Cubiboard 3 (Cubietrack), Image use e.g. http://www.igorpecovnik.com/2013/12/24/cubietruck-debian-wheezy-sd-card-image/
- Banana Pi

For a "quick and dirty" way to start Odysseus automatically on startup, you have to edit the file `/etc/inittab` according to these instructions: http://elinux.org/RPi_Debian_Auto_Login

At the following to the end of the file `.bashrc` of the user (e.g., `/home/pi/.bashrc`)

for server

```
cd
./startOdysseusServer
```

For peer

```
cd
./startOdysseus
```

Remark: For BeagleBone, autologin has to be activated like here described

http://embedded.von-kannen.net/2014/06/28/how-to-enable-autologin-debian/

Alternative:

(http://www.forum-raspberrypi.de/Thread-tutorial-automatisches-starten-von-scripte-programme-autostart)

Create a file odysseus in folder /etc/init.d/, give execute rights and replace DAEMON_PATH with your installation directoy, replace DAEMON with startOdysseusServer (startOdysseus in Peer)

/etc/init.d/odysseus start

/etc/init.d/odysseus stop

```
#!/bin/bash
# /etc/init.d/odysseus
### BEGIN INIT INFO
# Provides:   odysseus
# Required-Start: $local_fs $remote_fs
# Required-Stop:  $local_fs $remote_fs
# Should-Start:   $network
# Should-Stop:    $network
# Default-Start:  2 3 4 5
# Default-Stop:   0 1 6
# Short-Description:    Odysseus server
# Description:    Init script for the Odysseus
### END INIT INFO
NAME=odysseus
```

```
DESC="Odysseus data stream management system"
USERNAME=odysseus
PIDFILE=/var/run/$NAME.pid
SCRIPTNAME=/etc/init.d/$NAME
SCREENNAME=$NAME.screen
DAEMON=startOdysseus
DAEMON_PATH="/path/to/odysseus/"
ME=`whoami`
as_user() {
    if [ $ME == $USERNAME ] ; then
        bash -c "$1"
    else
        su $USERNAME -s /bin/bash -c "$1"
    fi
}
force_exit() {
    echo ""
    echo "SIGINIT CALLED - FORCE EXITING!"
    rm $PIDFILE
    ps aux | grep -e '$DAEMON_PATH/$DAEMON' | grep -v grep | awk
'{print $2}' | xargs -i kill {}
    ps aux | grep -e '$SCREENNAME' | grep -v grep | awk '{print $2}' |
xargs -i kill {}
    ps aux | grep -e '$SCRIPTNAME' | grep -v grep | awk '{print $2}' |
xargs -i kill {}

    exit 1
}
do_command() {
    as_user "screen -p 0 -S $SCREENNAME -X eval 'stuff \"$1\"\015'"
}
do_start() {
    printf "%-50s" "Starting $NAME..."
    as_user "screen -c /dev/null -dmS $SCREENNAME $DAEMON_PATH/$DAEMON"
    as_user "screen -list | grep "\.$SCREENNAME" | cut -f1 -d'.' | tr -
d -c 0-9 > $PIDFILE"
    PID=`cat $PIDFILE`
    if [ -z $PID ]; then
    printf "%s\n" "Fail"
    else
    printf "%s\n" "Ok"
    fi
}
do_stop() {
    printf "%-50s" "Stopping $NAME"
    if [ -f $PIDFILE ]; then
        do_command exit
        sleep 0.5
        as_user "rm $PIDFILE"
        printf "%s\n" "Ok"
        rm -f $PIDFILE
    else
    printf "%s\n" "pidfile not found"
    fi
}
do_status() {
    printf "%-50s" "Checking $NAME..."
    if [ -f $PIDFILE ]; then
    PID=`cat $PIDFILE`
    if [ -z "`ps axf | grep ${PID} | grep -v grep`" ]; then
        printf "%s\n" "Process dead but pidfile exists"
    else
        echo "Running"
    fi
    else
    printf "%s\n" "Service not running"
    fi
}
trap force_exit SIGINT
case "$1" in
  start)
    do_start
    ;;
  stop)
    do_stop
    ;;
  restart)
    do_stop
    do_start
    ;;
  status)
    do_status
    ;;
  command)
    if [ $# -gt 1 ]; then
      shift
      do_command "$*"
    else
      echo "Must specify command (try 'help'?)"
    fi
    ;;
  *)
  echo "Usage: $0 {start|stop|status|restart|command \"command\"}"
  exit 1
  ;;
esac
exit 0
```