Using Web Forms and OpenOffice to Create PDF's

The purpose of this tutorial is to document the procedure used to initiate a web form to OpenOffice conversion. What we mean by this is that we set up an OpenOffice document with "fields" and substituted those fields with information gained from a web form. In our example, we then returned a PDF version of the same document with the substituted fields. However we should note that we are not limited to PDF. We could just as easily have returned a Microsoft Word document or a PostScript (PS) document.

In the following examples, the command lines were issued on a Gateway 975 Rackmount Server running Debian GNU/Linux Testing. The system has the default install base with the addition of Apache and Samba only. The system was fully up to date as of this writing.

Step 0 – Log into the Server.

Preferably, you want to log in and install the software as a user that will be running the service necessary to make the conversions happen. Do NOT run any services as the root user. If you do not feel comfortable running a service under your username, then create a new user to run the service. You will need to be logged in as that user. Also, if you are not at the console, you log in, make sure you can run X Windows Applications from the server. You must have some privelages to install OpenOffice, in this case, sudo will be adequate.

Since in my case, the server is remote and headless, I logged into the server from my workstation as such:

```
> ssh -X rubicon.muh.musc.edu
```

I will be installing and running the software as myself. Also, since my server didn't have any of the Xfree86 software installed, I was required to make sure I could run X Windows applications, even remotely. So the following extra applications were installed along with their recommended and required packages.

```
xserver-common
xserver-xfree86
xvfb                (required for headless OpenOffice)
xbase-clients
xfonts-base
```

Step 1 – Grab and Install OpenOffice

In order for this to work, we had to use the latest version of Open Office. In this case, 1.1.0. You can obtain OpenOffice from the web at

http://www.openoffice.org

A number of mirror sites are available. Pick one that is good for you and wget the

application necessary download. The download for us is close to 80 megabytes.

> wget *path_to_openoffice*

Next, untar the package.

> tar xvfz OOo_1.1.0_LinuxIntel_install.tar.gz

Step 2 – Install

Change directory into the *Ooo_1.1.0_LinuxIntel_install* directory. You will need to install OpenOffice on the server. You will need root privelages to do so.

> cd Ooo_1.1.0_LinuxIntel_install
> sudo ./install

OpenOffice will be installed in the */usr/local/OpenOffice.org1.1.0* directory. It will help if you create a simpler symlink to the directory.

> sudo ln -s /usr/local/OpenOffice.org1.1.0/ /usr/local/openoffice

Step 3 – Create a local user install

For this application to work, it is necessary for a user to run an OpenOffice service. This user must have the "local" OpenOffice setup done.

> cd
> /usr/local/openoffice/setup

Follow the onscreen menus. When you get to the choice of Installation type, choose the small "workstation installation". We only need a few small files.

Step 4 – Create your Service script

You will need to create some sort of shell script that will run the openoffice service for you. The shell script should look like this:

```
#!/bin/bash
su brucej -c 'nohup xvfb-run --server-args=":99 -fbdir /tmp"
"/usr/local/openoffice/program/soffice -accept=socket,
host=localhost,port=2002;urp;" > /dev/null &'
```

An example of the script is available in the package.

Replace the username, brucej, with the username of your system. Name this shell script something appropriate. In our case, it is called ooconvert.daemon.sh and it has been placed in the /usr/local/bin folder of the system. However, it can be located anywhere.

Make sure that the script is executable:

> sudo chmod 755 /usr/local/bin/ooconvert.daemon.sh

Since we don't want to reboot our server, execute the shell script as a super user. This should start up a service.

> sudo /usr/local/bin/ooconvert.daemon.sh

Running ps aux should show you something very similar to the following:

```
12847 pts/0    S      0:00 /bin/sh /usr/bin/xvfb-run --server-args=:99 -fbdir /t
12854 pts/0    S      0:00 Xvfb :99 :99 -fbdir /tmp -nolisten tcp
12857 pts/0    R      0:02 /usr/local/openoffice/program/soffice.bin -accept=soc
12870 pts/0    S      0:00 /usr/local/openoffice/program/soffice.bin -accept=soc
12871 pts/0    S      0:00 /usr/local/openoffice/program/soffice.bin -accept=soc
12873 pts/0    S      0:00 /usr/local/openoffice/program/soffice.bin -accept=soc
12874 pts/0    S      0:00 /usr/local/openoffice/program/soffice.bin -accept=soc
12876 pts/0    S      0:00 /usr/local/openoffice/program/soffice.bin -accept=soc
```

I ended up placing the openoffice.sh file in the /usr/local/bin folder. Since I'm using Debian and not some other distribution, I have no rc.local file. I created the following file:

/etc/init.d/local

and made the following entries to it.

```
#!/bin/sh
#
# Local File to be run after boot up.  Created on 2003-10-21 by James Bruce.
#

# Added the following line on 2003-10-21.  Used to execute the necessary
# daemon for the Open Office Convert script to work.  Primarily used at this
# time in the Clinical Trials Center.
/usr/local/bin/ooconvert.daemon.sh
```

Next, make sure the local file is executed on bootup.

> sudo update-rc.d local defaults 80

This will create entries in all of the rc scripts on the Debian system. On the next reboot, our OpenOffice Service script should automatically start up.

Step 5 – Installing Needed Modules and Applications

In order for the Open Office Conversion to take place, a few modules need to present. You also need to make sure you have Python installed. Most Debian Systems do the Python install by default. The perl modules that are recommended are listed below:

Archive::Zip {apt-get'able, libarchive-zip-perl}

Step 6 – Install the OOConvert Scripts

A package has been created for you. The package can be found at the following web address.

http://delta-flyer.musc.edu/ooconvert/

Download the latest version of ooconvert. As of this writing, it is version 0.1.0. Within the package, you will find the ooconvert.pm perl module and a few other items. If you have followed these instructions, you won't need to edit any of the scripts. If you have not followed the instructions to the letter, you may experience some problems. A FAQ will be made available shortly for hints on where to look for problems.

Untar/zip the file. It will be necessary to move the contents to various locations including the cgi-bin and html root folders of your web server. Since we are on a Debian GNU/Linux box running Apache 1.3.x, our *cgi-bin* is located at /usr/lib/cgi-bin/ and our html root folder is located at /var/www/.

```
> mv ./ooconvert-0.1.0/cgi-bin/ooconvert /usr/lib/cgi-bin/
> mv ./ooconvert-0.1.0/ooconvert.test.html /var/www/
```

There are some important things to remember. In order for the perl script to work properly, it needs to have a workspace. The default path for our workspace is:

/usr/lib/cgi-bin/ooconvert/workspace

This workspace needs to be "writable" by the web user. If you have problems making this folder writable for the web server, then you will need to create a separate workspace. Just be aware that the script will need to know where this workspace is located. The workspace also holds you Open Office Files that you will be using.

Make sure the permissions of all of the files are correct.

```
> sudo chmod -R 755 /usr/lib/cgi-bin/ooconvert/
> sudo chown -R www-data:www-data /usr/lib/cgi-bin/ooconvert/workspace/
> sudo chmod 744 /var/www/ooconvert.test.html
```

Step 7 – Test it out!

Point your web browser to the url of the test file located on your server. For us, this was

http://rubicon.muh.musc.edu/ooconvert.test.html

Cross your fingers. If you get a PDF file, then you are all set to start using this tool. Look at the test.cgi file located in /usr/lib/cgi-bin/ooconvert for an example of how to use the tool.