

Preparing /jffs for /opt

First step is to prepare /opt mount point for Optware and create ipkg.conf file for packages download

```
~ # mkdir /jffs/opt
~ # mkdir /jffs/tmp
~ # mkdir /jffs/tmp/ipkg
~ # mount -o bind /jffs/opt /opt
~ # mkdir /opt/etc
~ # vi /opt/etc/ipkg.conf
```

Edit and insert the following content

```
src optware http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable
dest root /jffs
```

Now we will point /bin/ipkg script to this config with setting environment variable

```
~ # export IPKG_CONF_DIR=/opt/etc
```

This is enough to retrieve list of available packages with

```
~ # ipkg update
Downloading http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable/Packages ...
Connecting to ipkg.nslu2-linux.org[140.211.166.82]:80
Packages 100% |*****| 259 KB 00:00:00 ETA
Done.
Updated list of available packages in //jffs/usr/lib/ipkg/lists/optware
```

If nothing is reported after /bin/ipkg update then probably /etc/resolv.conf does not contain proper name server address like:

```
search local.lan
nameserver 192.168.1.1
```

Manual installing package ipkg-opt will automatically install also uclibc-opt package.

```
~ # /bin/ipkg -d root install ipkg-opt
```

For some reason, uclibc-opt was installed, but it kept saying it was a dependent package. The following worked for me:

```
~ # /bin/ipkg -force-depends install ipkg-opt
```

```
Downloading http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable/uclibc-opt\_0.9.28-12\_mipsel.ipk ...
Connecting to ipkg.nslu2-linux.org[140.211.166.82]:80
uclibc-opt_0.9.28-12 100% |*****| 832 KB 00:00:00 ETA
Done.
Unpacking uclibc-opt...Done.
Configuring uclibc-opt...Updating /opt/etc/ld.so.cache
Done.
```

```
Downloading http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable/ipkg-opt\_0.99.163-9\_mipsel.ipk ...
```

Optware-ByHand

```
Connecting to ipkg.nslu2-linux.org[140.211.166.82]:80
ipkg-opt_0.99.163-9_100% |*****| 75896 00:00:00 ETA
Done.
Unpacking ipkg-opt...Done.
Configuring ipkg-opt...Configuration file `/opt/etc/ipkg.conf'
==> File on system created by you or by a script.
==> File also in package provided by package maintainer.
What would you like to do about it ? Your options are:
  Y or I : install the package maintainer's version
  N or O : keep your currently-installed version
  D      : show the differences between the versions (if diff is installed)
The default action is to keep your current version.
*** ipkg.conf (Y/I/N/O/D) [default=N] ? y
Done.
```

Note that we answered 'y' to install maintainer /opt/etc/ipkg.conf with the following contents:

```
#Uncomment the following line for native packages feed (if any)
#src/gz native http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/native/stable
src/gz optware http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable
dest /opt/ /
```

If anything goes wrong when installing ipkg-opt then I recommend erasing /jffs/jffs and /jffs/usr directories with

```
rm -rf /jffs/jffs
rm -rf /jffs/usr
```

and repeat /bin/ipkg update and /bin/ipkg install ipkg-opt

Installing ipkg-opt package will maintain all packages installed in /opt directory along with its /opt/lib/ipkg directory where /opt/bin/ipkg maintains its status files. There is also /opt/bin/ipkg-opt to save us from confusion. To update list of available packages issue

```
~ # /opt/bin/ipkg-opt update
Downloading http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable/Packages.gz
Inflating http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable/Packages.gz
Updated list of available packages in /opt/lib/ipkg/lists/optware
Successfully terminated.
```

List of available packages is provided with

```
~ # /opt/bin/ipkg-opt list
```

List of installed packages

```
~ # /opt/bin/ipkg-opt list_installed
Successfully terminated.
```

will not show ipkg-opt and uclibc-opt as status file is now located in /opt/lib/ipkg/status and not /jffs/jffs/usr/lib/ipkg/status . To correct this issue we will reinstall the package itself with

```
~ # /opt/bin/ipkg-opt install ipkg-opt
Installing ipkg-opt (0.99.163-9) to /opt/...
Downloading http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable/ipkg-opt\_0.99.163-9\_mips
package uclibc-opt suggests installing ipkg-opt
Installing uclibc-opt (0.9.28-12) to /opt/...
```

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Optware-ByHand

```
Downloading http://ipkg.nslu2-linux.org/feeds/optware/ddwrt/cross/stable/uclibc-opt\_0.9.28-12\_mip  
Configuring ipkg-opt  
Configuring uclibc-opt  
Updating /opt/etc/ld.so.cache  
Successfully terminated.
```

With clean Optware install two packages should be listed

```
~ # /opt/bin/ipkg list_installed  
ipkg-opt - 0.99.163-9 - The Itsy Package Manager  
uclibc-opt - 0.9.28-12 - micro C library for embedded Linux systems  
Successfully terminated.
```

From now on no files outside /opt tree will be required for maintaining Optware packages. I even recommend erasing spurious files with

```
# rm -rf /jffs/jffs /jffs/usr
```

Exporting IPKG_CONF_DIR is not needed any more.