

# Package Management

The DSM is not shipped with a package management. If you want to add functionality such as 'vim' or 'sudo', then install the 'ipkg' package manager first.

This guide was written for DSM 4.3, but it also applies identically to DSM 5.1.

## ipkg

The following bootstrap files need to be run for the different versions of DSM hardware. Check the CPU version if in doubt as root:

```
# cat /proc/cpuinfo
```

Hardware	CPU	Bootstrap	Original	Remarks
DS3612xs	Intel Core i3 CPU	<a href="#">Bootstrap-i686</a>	<a href="#">Bootstrap-i686</a>	also applies to DSM 4.3 VMs
DS212+	Marvel 6282 CPU	<a href="#">Bootstrap-mv6282</a>	<a href="#">Bootstrap-mv6282</a>	special original download <a href="#">instructions</a>
DS213+	Freescale QorIQ P1022 CPU	<a href="#">Bootstrap-p1022</a>	<a href="#">Bootstrap-p1022</a>	see also <a href="#">PowerPC e500</a>

Copy the file to the DSM or get it directly from the command line, then make it executable and run it. The example below is for the i3 bootstrap, replace the file name accordingly:

```
# wget
http://ipkg.nslu2-linux.org/feeds/optware/syno-i686/cross/unstable/syno-i686-
-bootstrap_1.2-7_i686.xsh
# chmod +x syno-i686-bootstrap_1.2-7_i686.xsh
# ./syno-i686-bootstrap_1.2-7_i686.xsh
```

Reboot the VM or NAS. Change the path of your user and root as described in [Configuration](#).

To install apps, run the following:

```
ipkg update
ipkg install <app>
```

Also refer to [Synology CPU Table](#) and [Overview on modifying the Synology Server, bootstrap, ipkg etc.](#)

Other resources:

- [IPKG](#)
- [FTP Download Mirror](#)

## apps

### sudo

```
# ipkg install sudo
```

After installation, run *visudo* and uncomment the line starting with '%sudo' which defines rights for members of the sudo group. Then add the sudo group to */etc/group*.

```
# visudo
%sudo ALL=(ALL) ALL
```

```
# vi /etc/group
sudo:x:27:<user>
```

Change the shell prompt of your user and root as described in [Configuration](#).

### vim

```
# ipkg install vim
```

To fix the broken arrow keys in insert mode in vim, change the vim default config as follows:

```
$ vi ~/.vimrc
set nocompatible
```

Or better, set the system wide configuration file *vimrc*, or copy the example vim config file. First, find where the system wide config file is located:

```
$ vim
:echo $VIM
```

For DSM 4.3 / ipkg, the location is */opt/share/vim*, the example config file is located in the same directory:

```
# cp /opt/share/vim/vimrc_example.vim /opt/share/vim/vimrc
```

For Debian Wheezy, the location is */usr/share/vim* pointing to */etc/vim*, the example config file is located in */usr/share/vim/vim73*:

```
# cp /usr/share/vim/vim73/vimrc_example.vim /usr/share/vim/vimrc
```

Instead of copying the configuration file template, you can also just add syntax highlighting to */etc/vim/vimrc*:

```
if has("syntax")
  syntax on
```

```
endif
```

Other Vim resources:

- [Graphical vi-vim Cheat Sheet and Tutorial](#)
- [Vim documentation: help](#)
- [Fix broken arrow key navigation in insert mode](#)
- [What is in your .vimrc?](#)
- [Open vimrc file](#)

## lftp

```
# ipkg install lftp
```

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