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How do I install FreeBSD kernel source code?
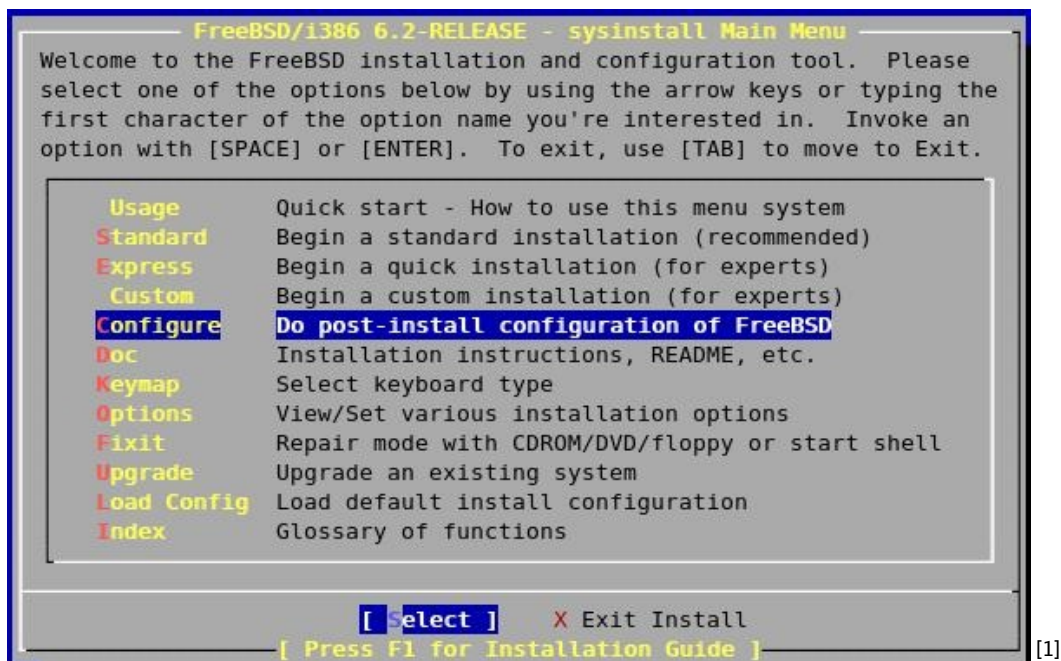
Posted by Vivek Gite <vivek@nixcraft.com>

Q. I need to configure FreeBSD kernel but not able to find out source code in /usr/src/sys directory. How do I install FreeBSD source code?

A.Your kernel and all related source code is located at /usr/src/sys directory which is also accessible through the /sys path.
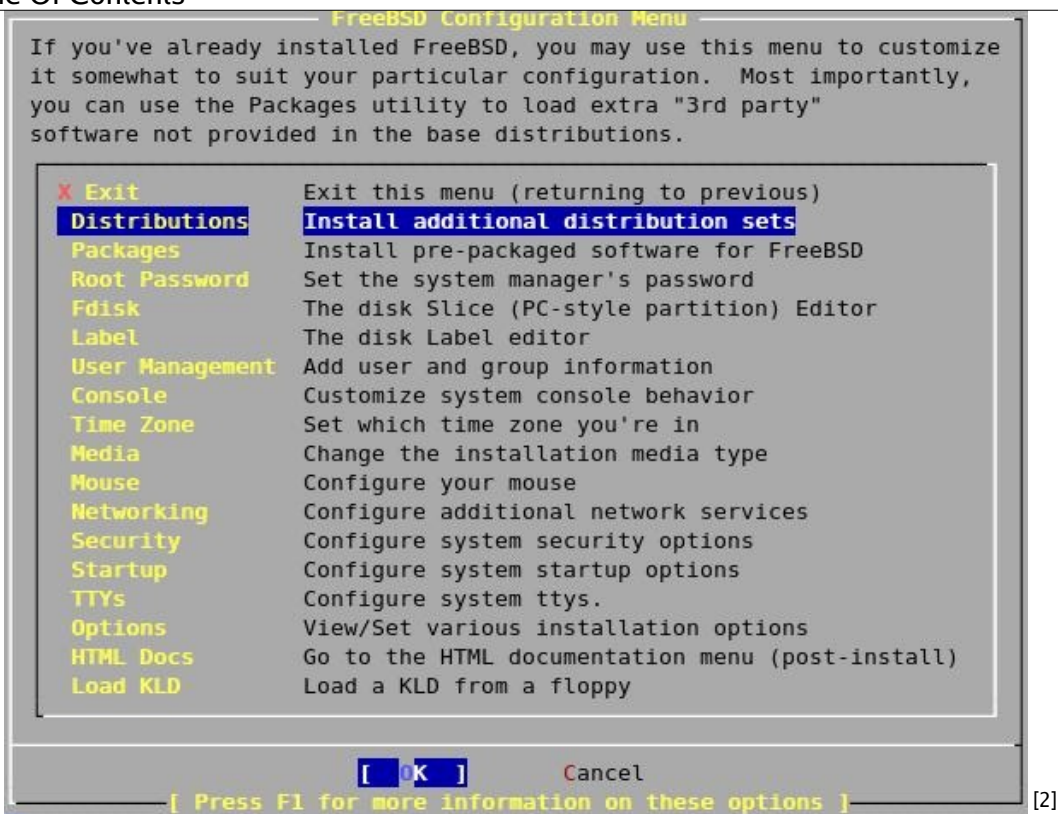
If there is not a /usr/src/sys directory on your system, then the kernel source has not been installed. The easiest way to do this is by running sysinstall as root, choosing Configure, then Distributions, then src, then **base** and **sys**

```
# sysinstall
```


[1]

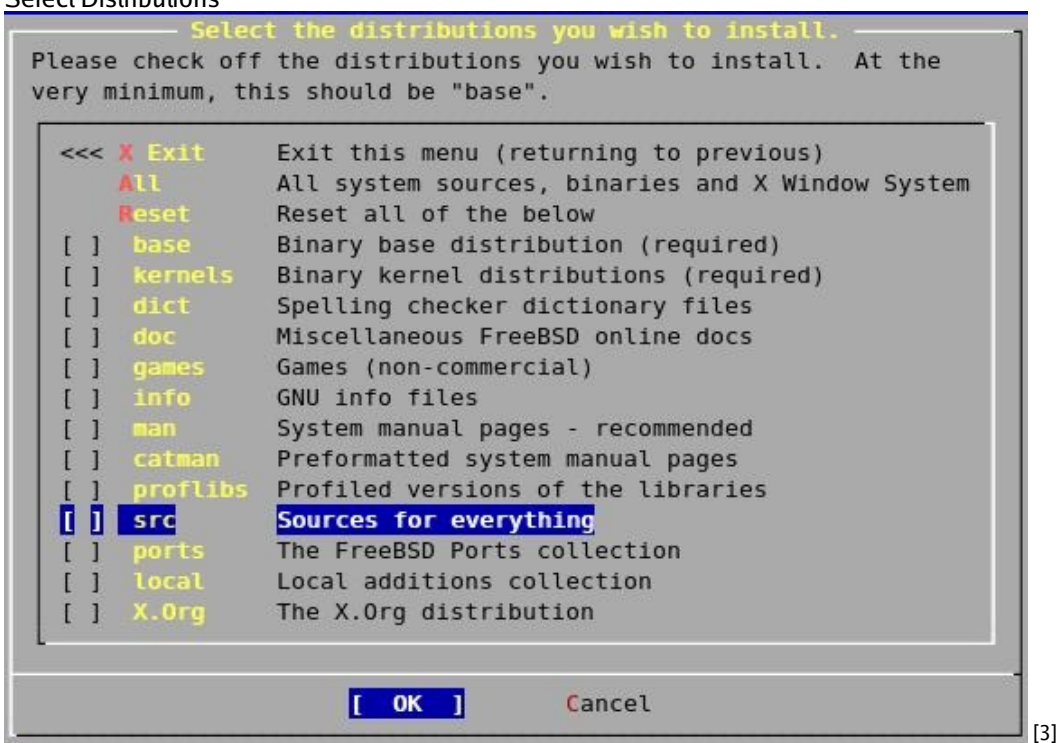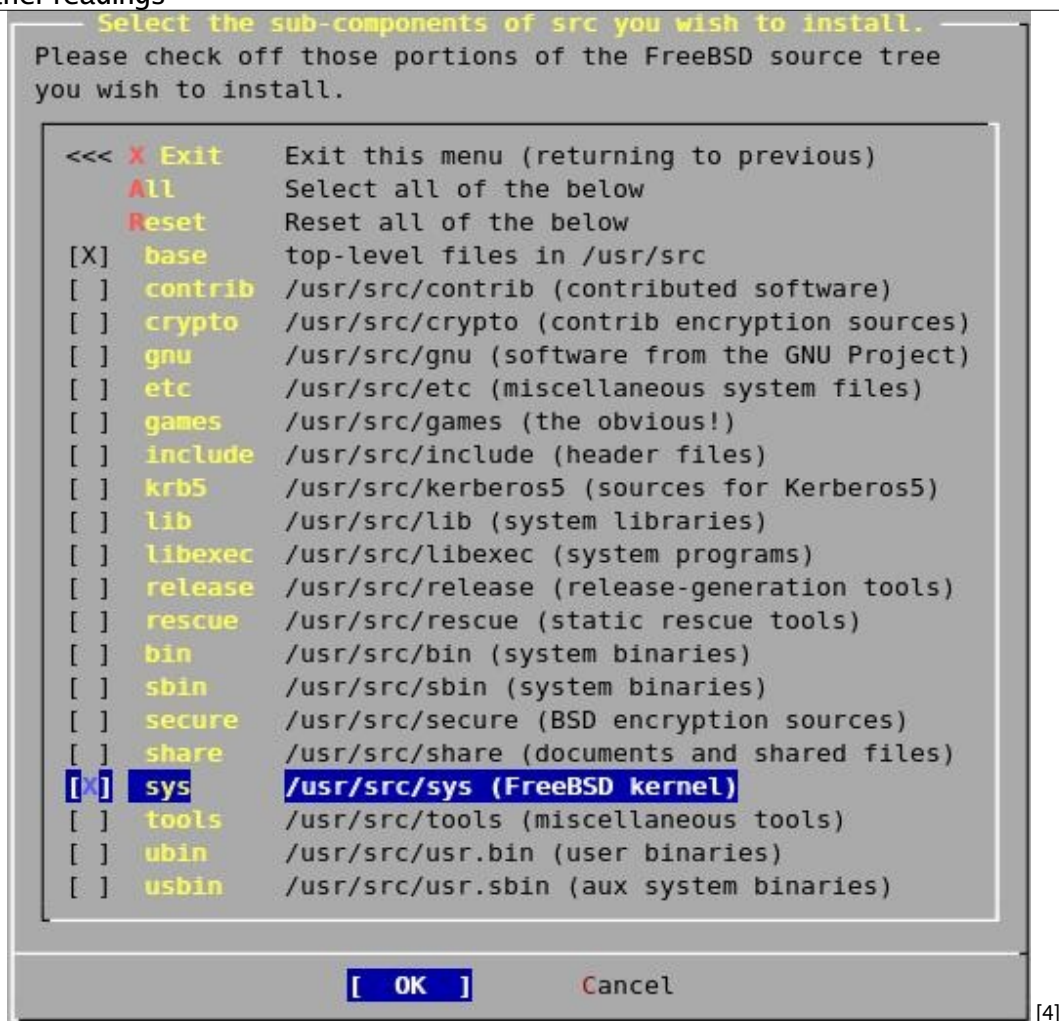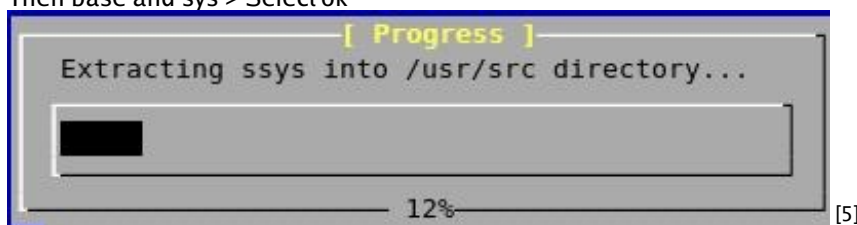Select Configure

```
                    ── FreeBSD Configuration Menu ──────────────
If you've already installed FreeBSD, you may use this menu to customize
it somewhat to suit your particular configuration.  Most importantly,
you can use the Packages utility to load extra "3rd party"
software not provided in the base distributions.

   X Exit              Exit this menu (returning to previous)
   Distributions       Install additional distribution sets
   Packages            Install pre-packaged software for FreeBSD
   Root Password       Set the system manager's password
   Fdisk               The disk Slice (PC-style partition) Editor
   Label               The disk Label editor
   User Management     Add user and group information
   Console             Customize system console behavior
   Time Zone           Set which time zone you're in
   Media               Change the installation media type
   Mouse               Configure your mouse
   Networking          Configure additional network services
   Security            Configure system security options
   Startup             Configure system startup options
   TTYs                Configure system ttys.
   Options             View/Set various installation options
   HTML Docs           Go to the HTML documentation menu (post-install)
   Load KLD            Load a KLD from a floppy

                        [  OK  ]          Cancel
           ───────[ Press F1 for more information on these options ]───────
```
[2]

Select Distributions

```
          ── Select the distributions you wish to install. ──
Please check off the distributions you wish to install.  At the
very minimum, this should be "base".

   <<< X Exit        Exit this menu (returning to previous)
       All           All system sources, binaries and X Window System
       Reset         Reset all of the below
   [ ] base          Binary base distribution (required)
   [ ] kernels       Binary kernel distributions (required)
   [ ] dict          Spelling checker dictionary files
   [ ] doc           Miscellaneous FreeBSD online docs
   [ ] games         Games (non-commercial)
   [ ] info          GNU info files
   [ ] man           System manual pages - recommended
   [ ] catman        Preformatted system manual pages
   [ ] proflibs      Profiled versions of the libraries
   [ ] src           Sources for everything
   [ ] ports         The FreeBSD Ports collection
   [ ] local         Local additions collection
   [ ] X.Org         The X.Org distribution

                        [  OK  ]          Cancel
```
[3]

Select src

```
┌──── Select the sub-components of src you wish to install. ────┐
│ Please check off those portions of the FreeBSD source tree    │
│ you wish to install.                                          │
│ ┌───────────────────────────────────────────────────────────┐ │
│ │ <<< X Exit      Exit this menu (returning to previous)    │ │
│ │       All       Select all of the below                   │ │
│ │       Reset     Reset all of the below                    │ │
│ │ [X]   base      top-level files in /usr/src               │ │
│ │ [ ]   contrib   /usr/src/contrib (contributed software)   │ │
│ │ [ ]   crypto    /usr/src/crypto (contrib encryption sources) │ │
│ │ [ ]   gnu       /usr/src/gnu (software from the GNU Project) │ │
│ │ [ ]   etc       /usr/src/etc (miscellaneous system files) │ │
│ │ [ ]   games     /usr/src/games (the obvious!)             │ │
│ │ [ ]   include   /usr/src/include (header files)           │ │
│ │ [ ]   krb5      /usr/src/kerberos5 (sources for Kerberos5) │ │
│ │ [ ]   lib       /usr/src/lib (system libraries)           │ │
│ │ [ ]   libexec   /usr/src/libexec (system programs)        │ │
│ │ [ ]   release   /usr/src/release (release-generation tools) │ │
│ │ [ ]   rescue    /usr/src/rescue (static rescue tools)     │ │
│ │ [ ]   bin       /usr/src/bin (system binaries)            │ │
│ │ [ ]   sbin      /usr/src/sbin (system binaries)           │ │
│ │ [ ]   secure    /usr/src/secure (BSD encryption sources)  │ │
│ │ [ ]   share     /usr/src/share (documents and shared files) │ │
│ │ [X]   sys       /usr/src/sys (FreeBSD kernel)             │ │
│ │ [ ]   tools     /usr/src/tools (miscellaneous tools)      │ │
│ │ [ ]   ubin      /usr/src/usr.bin (user binaries)          │ │
│ │ [ ]   usbin     /usr/src/usr.sbin (aux system binaries)   │ │
│ └───────────────────────────────────────────────────────────┘ │
│                                                               │
│          [  OK  ]          Cancel                             │
└───────────────────────────────────────────────────────────────┘
```
[4]

Then base and sys > Select ok

```
┌──────────────── [ Progress ]────────────────┐
│ Extracting ssys into /usr/src directory...   │
│                                              │
│ ┌──────────────────────────────────────────┐ │
│ │ ████                                     │ │
│ └──────────────────────────────────────────┘ │
│                                              │
│────────────────── 12%──────────────────────│
└──────────────────────────────────────────────┘
```
[5]

Further readings

- [FreeBSD handbook](#) [6]

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[5] Image: **http://www.cyberciti.biz/faq/wp-content/uploads/2007/06/sysinstall-5.jpg**

[6] FreeBSD handbook: **http://www.freebsd.org/doc/en_US.ISO8859-1/books/handbook/kernelconfig-building.html**