

Source code indexer

**CTAGS**

# What does it do?

- ⦿ Indexes source code for fast lookups of methods, variables, structs, macros, ...
- ⦿ But LXR does this...
  - Ctags can be used directly in vim or emacs
  - Don't need to switch to a browser
  - Faster

# How to install

- ④ aptitude install ctags (installs exuberant ctags)
- ④ Run “ctags –R” while in the linux kernel source directory
  - Creates a file called “tags” in the source directory
  - Running “ctags –R <source dir>” creates an index of <source dir>, but creates the file in the pwd

# Basic Commands

- ⦿ Vim -t <tag>

- Jumps to first match of tag

- ⦿ In normal mode

- :tjump <tag> or :tjump /<pattern>
  - Search for tag or pattern, allow user to select from matches
- :tag <tag> or :tag /<pattern>
  - Search for tag or pattern, jump to first match

# More Commands

## ⦿ In normal mode

- `:tags`
  - Display current tag stack
- `:pop`
  - Pop top tag from stack, go to tag on top of stack

# Basic Key Mappings

## ⦿ In normal mode

- g Ctrl-] :tjump <word under cursor>
  - Allow user to select match for tag under cursor
- Ctrl-] :tag <word under cursor>
  - Jump to first match of tag under cursor
- Ctrl-T :pop
  - Pop top tag from stack, go to new tag on top of stack

# Window Key Mappings

- Ctrl-W g ] :stjump <word under cursor>
  - Split window, and allow user to select match of tag
- Ctrl-W ] :stag <word under cursor>
  - Split window, go to first match of tag
- Ctrl-W g } :ptjump
  - Open preview window, allow user to select match of tag
- Ctrl-W } :ptag <word under cursor>
  - Open preview window, go to first match of tag

```

# pri kind tag file
1 F f printk /home/devicedriver/linux-3.2.36/a
    asmlinkage int printk(const char *fmt, ...)
2 F f printk /home/devicedriver/linux-3.2.36/a
    static inline int printk(const char *fmt, ...)
3 F f printk /home/devicedriver/linux-3.2.36/i
    int printk(const char *s, ...)
4 F d printk /home/devicedriver/linux-3.2.36/i
    129
5 F v printk /home/devicedriver/linux-3.2.36/k
    EXPORT_SYMBOL(printk);
6 F f printk /home/devicedriver/linux-3.2.36/k
    asmlinkage int printk(const char *fmt, ...)
7 FS d printk /home/devicedriver/linux-3.2.36/c
    58
8 FS m printk /home/devicedriver/linux-3.2.36/t
    struct:printk_map
    char *printk;

```

Type number and <Enter> (empty cancels): █



```
* notice the new output in console_unlock(); and will send it to the
* consoles before releasing the lock.
*
* One effect of this deferred printing is that code which calls printk() and
* then changes console_loglevel may break. This is because console_loglevel
* is inspected when the actual printing occurs.
*
* See also:
* printf(3)
*
* See the vsnprintf() documentation for format string extensions over C99.
*/
```

```
__asm__linkage int printk(const char *fmt, ...)
```

```
{
    va_list args;
    int r;

#ifdef CONFIG_KGDB_KDB
    if (unlikely(kdb_trap_printk)) {
        va_start(args, fmt);
        r = vkdb_printf(fmt, args);
        va_end(args);
        return r;
    }
#endif
    va_start(args, fmt);
    r = vprintk(fmt, args);
}
```

```
~/linux-3.2.36/kernel/printk.c
```

738,1

41%

```
MODULE_LICENSE("Dual BSD/GPL");
```

```
static int hello_init(void)
```

```
{
    printk(KERN_EMERG "Hello, world\n");
    return 0;
}
```

```
static void hello_exit(void)
```

```
{
    printk(KERN_EMERG "Goodbye, cruel world\n");
}
```

```
module_init(hello_init);
```

```
module_exit(hello_exit);
```

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hello.c	10,12	Bot
~/linux-3.2.36/kernel/printk.c" 1763L, 44585C		

# Other notes

- ◎ Vim looks for tags file in tags option, or, if it doesn't exist, for the tags file in its pwd
  - :set tags=<tags file>
  - Add to .vimrc if lazy
- ◎ ctags --list-kinds=c, list kinds of tags for c language

# More Notes

- ◉ Ctrl-] and g Ctrl-] open result in current window
  - If current buffer in vim isn't saved, vim complains
  - Auto save buffer on buffer switch with :set autowrite, or tell vim to ignore unsaved buffers with :set hidden (be careful doing :q! with this option)
  - Or just save the file

# References

- ⦿ [http://vim.wikia.com/wiki/Browsing\\_programs\\_with\\_tags](http://vim.wikia.com/wiki/Browsing_programs_with_tags)
- ⦿ <http://ctags.sourceforge.net/ctags.html>