

Write and Submit your first Linux Kernel Patch

Greg Kroah-Hartman

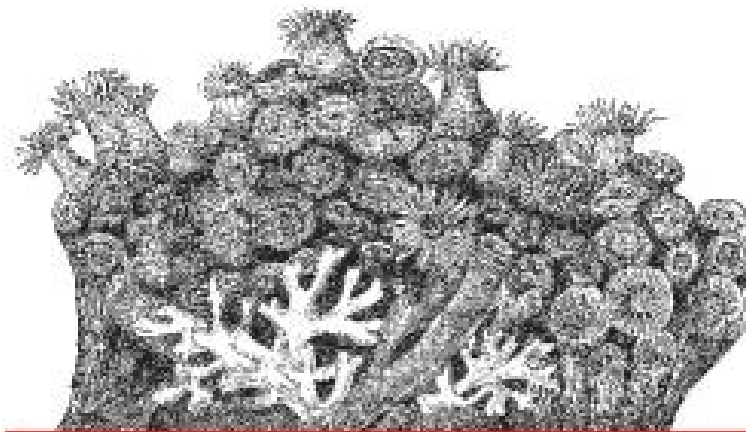
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github.com/gregkh/kernel-tutorial.git

Documentation/HOWTO

Documentation/ development_process

What are we not going to
cover?



LINUX KERNEL

IN A NUTSHELL

A Desktop Quick Reference

O'REILLY®

Greg Kroah-Hartman

SECOND EDITION

Based on
Draft-Proposed
ANSI C

THE

C

PROGRAMMING
LANGUAGE

BRIAN W. KERNIGHAN
DENNIS M. RITCHIE

PRENTICE HALL SOFTWARE SERIES

What we are going to cover

- git basics
- Linux kernel coding style
- Fixing a file
- Generating a patch
- Emailing the patch

+++ git

git

the fast version control system



git clone

```
git clone git://git.kernel.org/pub/scm/linux/kernel/git/torvalds/linux.git
```

git branch

git branch tutorial

git checkout tutorial

Working with linux-next

```
$ git remote add linux-next \  
    git://git.kernel.org/pub/scm/linux/kernel/git/next/linux-next.git
```

```
$ git fetch linux-next
```

```
$ git fetch --tags linux-next
```

```
... # later on
```

```
$ git checkout master      # to be safe
```

```
$ git remote update
```

```
$ git tag -l "next-*" | tail # linux-next tags
```

```
$ git checkout -b my_local_branch next-20140625  
Switched to a new branch 'my_local_branch'
```

<https://www.kernel.org/doc/man-pages/linux-next.html>

Documentation/CodingStyle

Documentation/CodingStyle

Why Care?

“It is not merely a matter of aesthetics that programs should be written in a particular style. Rather there is a psychological basis for writing programs in a conventional manner: programmers have strong expectations that other programmers will follow these discourse rules. If the rules are violated, then the utility afforded by the expectations that programmers have built up over time is effectively nullified.”

– Soloway & Ehrlich

Use tabs

**All tabs are 8
characters**

**80 character line
limit**

```
if (error != -ENODEV) {  
    foo();  
    bar();  
}
```



```
if (error != -ENODEV) {  
    foo();  
    bar();  
} else {  
    report_error();  
    goto exit;  
}
```

```
if (error != -ENODEV)
    foo();
else
    goto exit;
```

```
int function(int *baz)
{
    do_something(baz) ;
    return 0 ;
}
```

scripts/checkpatch.pl

USB: otg: Fix bug on remove path without transceiver

In the case where a gadget driver is removed while no transceiver was found at probe time, a bug in otg_put_transceiver() will trigger.

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```
--- a/drivers/usb/otg/otg.c
+++ b/drivers/usb/otg/otg.c
@@ -43,7 +43,8 @@ EXPORT_SYMBOL(otg_get_transceiver);
 void otg_put_transceiver(struct otg_transceiver *x)
 {
-    put_device(x->dev);
+    if (x)
+        put_device(x->dev);
 }
```

Developer's Certificate of Origin

- (a) I created this change; or
- (b) Based this on a previous work with a compatible license; or
- (c) Provided to me by (a), (b), or (c) and not modified
- (d) This contribution is public.

git diff

git commit

git show

git format-patch

git send-email

scripts/get_maintainer.pl

Checklist

- Kernel builds with patch applied
- Correct “From:” address
- Concise “Subject:”
- Explain the patch
- Signed-off-by

kernelnewbies.org/FirstKernelPatch

kernelnewbies.org/PatchTipsAndTricks



