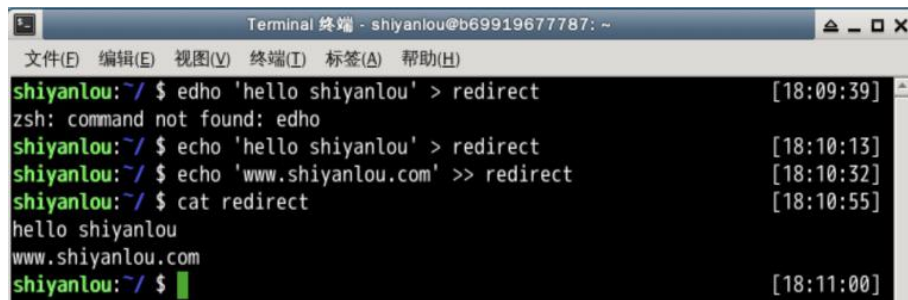


# Linux 基础入门之实验十二数据流重定向

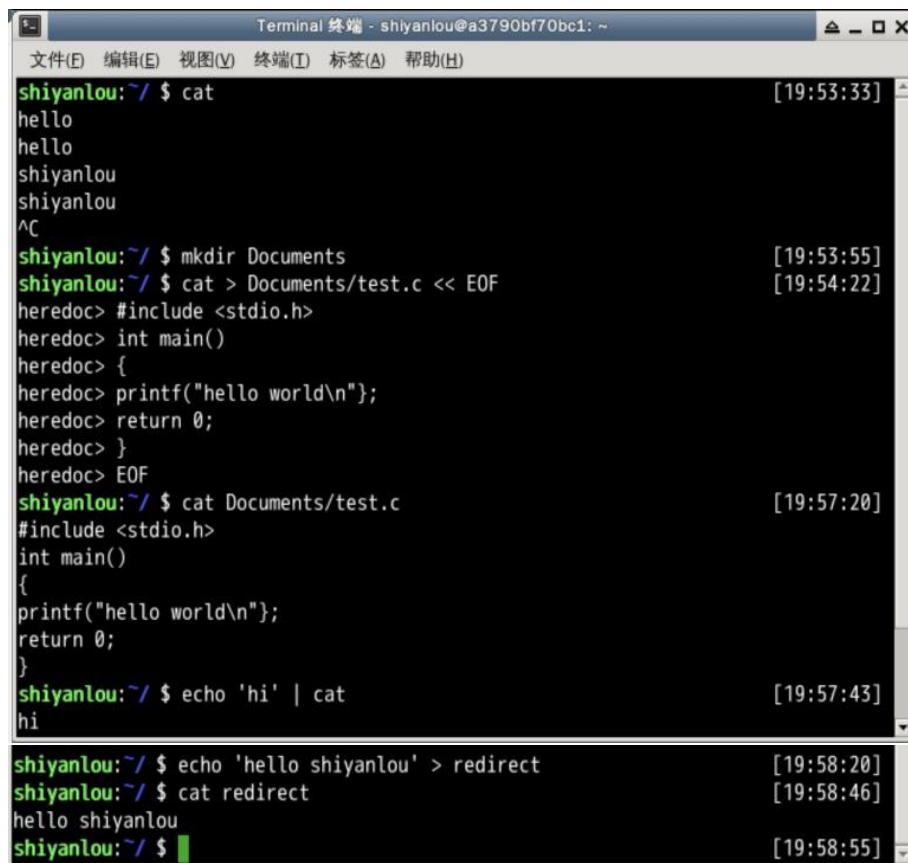
## 1.数据流重定向



A terminal window titled "Terminal 终端 - shiyanlou@b69919677787: ~" showing the following commands and their outputs:

```
shiyanlou:~/ $ edho 'hello shiyanlou' > redirect [18:09:39]
zsh: command not found: edho
shiyanlou:~/ $ echo 'hello shiyanlou' > redirect [18:10:13]
shiyanlou:~/ $ echo 'www.shiyanlou.com' >> redirect [18:10:32]
shiyanlou:~/ $ cat redirect [18:10:55]
hello shiyanlou
www.shiyanlou.com
shiyanlou:~/ $ [18:11:00]
```

### (1)简单的重定向



A terminal window titled "Terminal 终端 - shiyanlou@a3790bf70bc1: ~" showing the following commands and their outputs:

```
shiyanlou:~/ $ cat [19:53:33]
hello
hello
shiyanlou
shiyanlou
^C
shiyanlou:~/ $ mkdir Documents [19:53:55]
shiyanlou:~/ $ cat > Documents/test.c << EOF [19:54:22]
heredoc> #include <stdio.h>
heredoc> int main()
heredoc> {
heredoc> printf("hello world\n");
heredoc> return 0;
heredoc> }
heredoc> EOF
shiyanlou:~/ $ cat Documents/test.c [19:57:20]
#include <stdio.h>
int main()
{
printf("hello world\n");
return 0;
}
shiyanlou:~/ $ echo 'hi' | cat [19:57:43]
hi
shiyanlou:~/ $ echo 'hello shiyanlou' > redirect [19:58:20]
shiyanlou:~/ $ cat redirect [19:58:46]
hello shiyanlou
shiyanlou:~/ $ [19:58:55]
```

### (2)标准错误重定向

```
Terminal 终端 - shiyanlou@a3790bf70bc1: ~
文件(F) 编辑(E) 视图(V) 终端(T) 标签(A) 帮助(H)

shiyanlou:~/ $ cat Documents/test.c hello.c [19:58:55]
#include <stdio.h>
int main()
{
printf("hello world\n");
return 0;
}
cat: hello.c: 没有那个文件或目录
shiyanlou:~/ $ cat Documents/test.c hello.c > somefile [20:22:44]
cat: hello.c: 没有那个文件或目录
shiyanlou:~/ $ cat Documents/test.c hello.c >somefile 2>&1 [20:23:18]
shiyanlou:~/ $ cat Documents/test.c hello.c &>somefilehell [20:24:11]
shiyanlou:~/ $ cat somefile [20:24:46]
#include <stdio.h>
int main()
{
printf("hello world\n");
return 0;
}
cat: hello.c: 没有那个文件或目录
shiyanlou:~/ $ cat somefilehell [20:24:52]
#include <stdio.h>
int main()
{
printf("hello world\n");
return 0;
}
cat: hello.c: 没有那个文件或目录
shiyanlou:~/ $ cat somefilehell [20:24:52]
#include <stdio.h>
int main()
{
printf("hello world\n");
return 0;
}
cat: hello.c: 没有那个文件或目录
shiyanlou:~/ $ [20:25:08]
```

### (3)使用 tee 命令同时重定向多个文件

```
shiyanlou:~/ $ echo 'hello shiyanlou' | tee hello [20:25:08]
hello shiyanlou
shiyanlou:~/ $ cat hello [20:33:36]
hello shiyanlou
shiyanlou:~/ $ [20:33:42]
```

### (4)永久重定向

```
shiyanlou:~/ $ zsh [20:33:42]
shiyanlou:~/ $ exec 1>somefile [20:35:57]
shiyanlou:~/ $ ls [20:36:06]
anaconda3
Code
Desktop
Documents
hello
redirect
somefile
somefilehell
shiyanlou:~/ $ cat somefile [20:36:13]
anaconda3
Code
Desktop
Documents
hello
redirect
somefile
somefilehell
shiyanlou:~/ $ [20:36:18]
```

#### (5)创建输出文件描述符

```
Terminal 终端 - shiyanlou@a3790bf70bc1: ~
文件(F) 编辑(E) 视图(V) 终端(T) 标签(A) 帮助(H)

shiyanlou:~/ $ zsh [20:48:45]
shiyanlou:~/ $ exec 3>somefile [20:48:52]
shiyanlou:~/ $ ls -l [20:49:01]
总用量 24
lrwxrwxrwx 1 shiyanlou shiyanlou 10 6月 9 2018 anaconda3 -> /anaconda3
drwxrwxr-x 2 shiyanlou shiyanlou 4096 6月 9 2018 Code
drwxr-xr-x 2 shiyanlou shiyanlou 4096 6月 9 2018 Desktop
drwxrwxr-x 2 shiyanlou shiyanlou 4096 6月 4 19:57 Documents
-rw-rw-r-- 1 shiyanlou shiyanlou 16 6月 4 20:33 hello
-rw-rw-r-- 1 shiyanlou shiyanlou 16 6月 4 19:58 redirect
-rw-rw-r-- 1 shiyanlou shiyanlou 0 6月 4 20:49 somefile
-rw-rw-r-- 1 shiyanlou shiyanlou 111 6月 4 20:24 somefilehell
shiyanlou:~/ $ cd /dev/fd/;ls -AL;cd - [20:49:28]
0 1 10 12 2 3
~
shiyanlou:~/ $ echo "this is test" >83 [20:50:16]
shiyanlou:~/ $ cat somefile [20:50:45]
this is test
shiyanlou:~/ $ exit [20:50:51]
shiyanlou:~/ $ [20:50:59]
```

#### (6)关闭文件描述符

```
shiyanlou:~/ $ exec 3>&- [20:50:59]
shiyanlou:~/ $ cd /dev/fd/;ls -AL;cd - [20:52:29]
0 1 10 12 2
~
shiyanlou:~/ $ [20:52:43]
```

#### (7)完全屏蔽命令的输出

& cat Documents/test.c nefile 1>/dev/null 2>&1

#### (8)使用 xargs 分割参数列表

\$ cut -d; -f1 < /etc/passwd | sort | xargs echo