

Ubuntu [Running] - Oracle VM VirtualBox

File Machine View Input Devices Help

Activities Terminal Nov 25 17:36

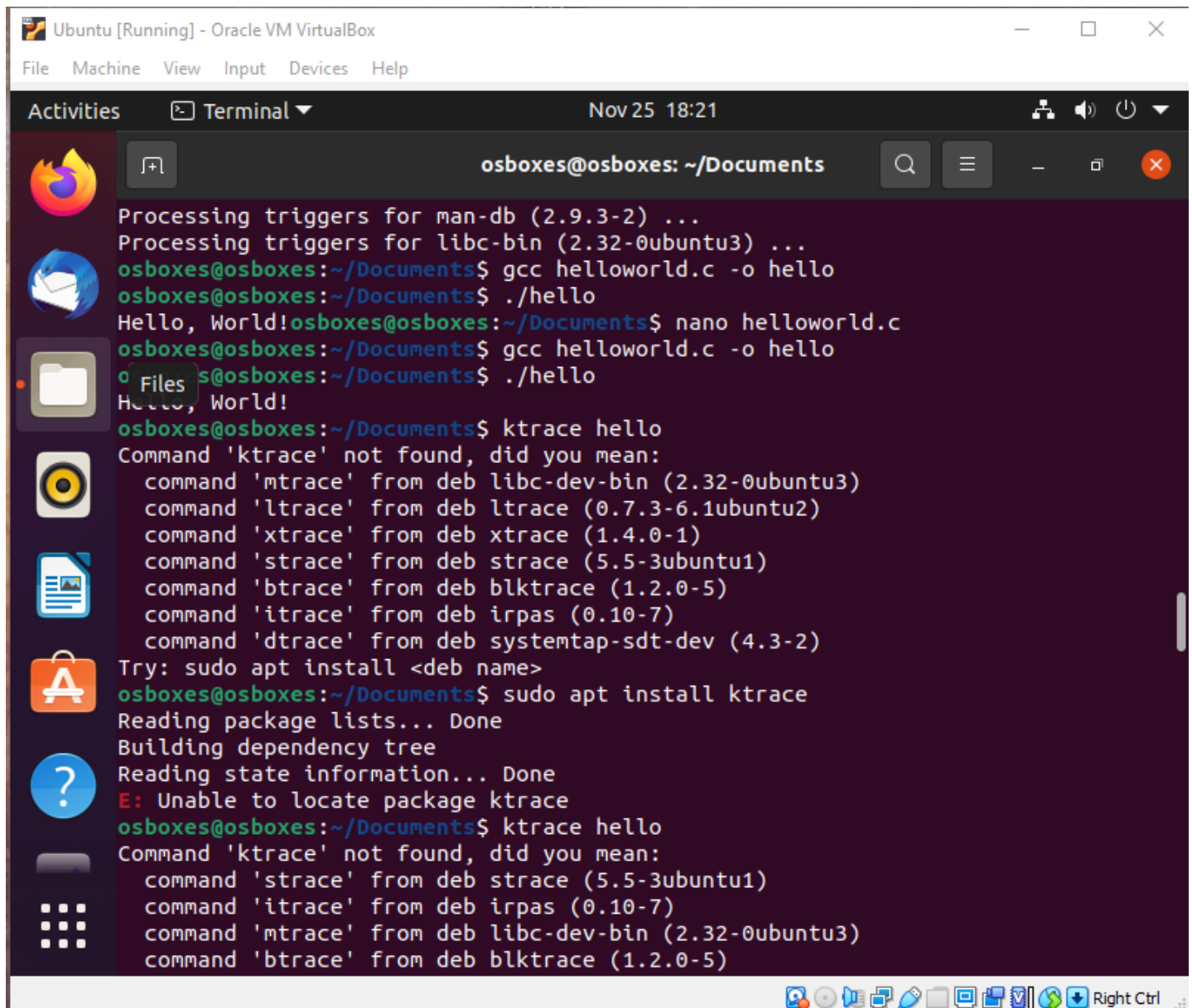
osboxes@osboxes: ~/Documents

```
osboxes@osboxes:~$ man 1 write
osboxes@osboxes:~$ man 1 cp
osboxes@osboxes:~$ man 2 write
No manual entry for write in section 2
osboxes@osboxes:~$ pwd
/home/osboxes
osboxes@osboxes:~$ ls
Desktop Documents Downloads Music Pictures Public Templates Videos
osboxes@osboxes:~$ man 1 echo
osboxes@osboxes:~$ cd
osboxes@osboxes:~$ cd Documents
osboxes@osboxes:~/Documents$ ls
osboxes@osboxes:~/Documents$ pwd
/home/osboxes/Documents
osboxes@osboxes:~/Documents$ touch foo
osboxes@osboxes:~/Documents$ ls
foo
osboxes@osboxes:~/Documents$ cp foo bar
osboxes@osboxes:~/Documents$ ls
bar  foo
osboxes@osboxes:~/Documents$ mv bar baz
osboxes@osboxes:~/Documents$ ls
baz  foo
osboxes@osboxes:~/Documents$ rm baz
osboxes@osboxes:~/Documents$ ls
foo
osboxes@osboxes:~/Documents$ mkdir test
osboxes@osboxes:~/Documents$ ls
foo  test
```

foo test

```
osboxes@osboxes:~/Documents$ cd test
osboxes@osboxes:~/Documents/test$ pwd
/home/osboxes/Documents/test
osboxes@osboxes:~/Documents/test$ cd ..
osboxes@osboxes:~/Documents$ rmdir test
osboxes@osboxes:~/Documents$ ls
foo
osboxes@osboxes:~/Documents$ echo hello
hello
osboxes@osboxes:~/Documents$ echo ???
???
```

```
osboxes@osboxes:~/Documents$ echo hello > hello.txt
osboxes@osboxes:~/Documents$ ls
foo  hello.txt
osboxes@osboxes:~/Documents$ cat hello.txt
hello
osboxes@osboxes:~/Documents$
```



```
Processing triggers for man-db (2.9.3-2) ...
Processing triggers for libc-bin (2.32-0ubuntu3) ...
osboxes@osboxes:~/Documents$ gcc helloworld.c -o hello
osboxes@osboxes:~/Documents$ ./hello
Hello, World!
osboxes@osboxes:~/Documents$ nano helloworld.c
osboxes@osboxes:~/Documents$ gcc helloworld.c -o hello
osboxes@osboxes:~/Documents$ ./hello
Hello, World!
osboxes@osboxes:~/Documents$ ktrace hello
Command 'ktrace' not found, did you mean:
  command 'mtrace' from deb libc-dev-bin (2.32-0ubuntu3)
  command 'ltrace' from deb ltrace (0.7.3-6.1ubuntu2)
  command 'xtrace' from deb xtrace (1.4.0-1)
  command 'strace' from deb strace (5.5-3ubuntu1)
  command 'btrace' from deb blktrace (1.2.0-5)
  command 'itrace' from deb irpas (0.10-7)
  command 'dtrace' from deb systemtap-sdt-dev (4.3-2)
Try: sudo apt install <deb name>
osboxes@osboxes:~/Documents$ sudo apt install ktrace
Reading package lists... Done
Building dependency tree
Reading state information... Done
E: Unable to locate package ktrace
osboxes@osboxes:~/Documents$ ktrace hello
Command 'ktrace' not found, did you mean:
  command 'strace' from deb strace (5.5-3ubuntu1)
  command 'itrace' from deb irpas (0.10-7)
  command 'mtrace' from deb libc-dev-bin (2.32-0ubuntu3)
  command 'btrace' from deb blktrace (1.2.0-5)
```



Q



```
Try: sudo apt install <deb name>
```

```
osboxes@osboxes:~/Documents$ nano helloworld.c
```

Command 'ktrace' not found, did you mean:

```
command 'dtrace' from deb systemtap-sdt-dev
```

```
Rhythmbox mtrace' from deb libc-dev-bin (2.
```

```
command 'ltrace' from deb ltrace (0.7.3-
```

```
Try: sudo apt install <deb name>
```

```
osboxes@osboxes:~/Documents$ man 2 write
```

```
linux-vdso.so.1 (0x00007ffeab150000)
```

```
/lib64/ld-linux-x86-64.so.2 (0x00007ffa96421000)
```

```
000000000000000037c r    abi tag
```

```
00000000000000004010 b completed.0
```

```
000004000 D    data start
```

```
00000000000000001090 t deregister
```

[illegible]

Activities

Terminal ▾

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```
0000000000004000 W data_start
0000000000001090 t deregister_tm_clones
0000000000001100 t __do_global_dtors_aux
0000000000003dc0 d __do_global_dtors_aux_fini_array_entry
0000000000004008 D __dso_handle
0000000000003dc8 d _DYNAMIC
0000000000004010 D _edata
0000000000004018 B _end
00000000000011e8 T _fini
0000000000001140 t frame_dummy
0000000000003db8 d __frame_dummy_init_array_entry
000000000000215c r __FRAME_END__
0000000000003fb8 d _GLOBAL_OFFSET_TABLE_
0000000000000000 w __gmon_start__
0000000000000000 r __GNU_EH_FRAME_HDR
0000000000001000 t _init
0000000000003dc0 d __init_array_end
0000000000003db8 d __init_array_start
0000000000002000 R _IO_stdin_used
0000000000000000 w _ITM_deregisterTMCloneTable
0000000000000000 w _ITM_registerTMCloneTable
00000000000011e0 T __libc_csu_fini
0000000000001170 T __libc_csu_init
0000000000000000 U __libc_start_main@@GLIBC_2.2.5
0000000000001149 T main
0000000000000000 U puts@@GLIBC_2.2.5
00000000000010c0 t register_tm_clones
0000000000001060 T _start
0000000000004010 D __TMC_END__
```

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```
0000000000001060 T _start
0000000000004010 D __TMC_END__
osboxes@osboxes:~/Documents$ gcc -g -O0 helloworld.c -o hello
osboxes@osboxes:~/Documents$ gdb ./hello
GNU gdb (Ubuntu 9.2-0ubuntu2) 9.2
Copyright (C) 2020 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
Type "show copying" and "show warranty" for details.
This GDB was configured as "x86_64-linux-gnu".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
<http://www.gnu.org/software/gdb/documentation/>.

For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from ./hello...
(gdb) b main
Breakpoint 1 at 0x1149: file helloworld.c, line 4.
(gdb) r
Starting program: /home/osboxes/Documents/hello

Breakpoint 1, main () at helloworld.c:4
4      {
(gdb) n
5          printf("Hello, World!\n");
```

Right Ctrl

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```
(gdb) n
5         printf("Hello, World!\n");
(gdb) n
Hello, World!
6         return 0;
(gdb) n
7     }
(gdb) n
__libc_start_main (main=0x5555555555149 <main>, argc=1, argv=0x7fffffffe148,
init=<optimized out>, fini=<optimized out>, rtd_fini=<optimized out>,
stack_end=0x7fffffffe138) at ../csu/libc-start.c:348
348     ../csu/libc-start.c: No such file or directory.
(gdb) n
[Inferior 1 (process 7612) exited normally]
(gdb) n
The program is not being run.
(gdb) q
osboxes@osboxes:~/Documents$ gdb ./hello
GNU gdb (Ubuntu 9.2-0ubuntu2) 9.2
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License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
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This GDB was configured as "x86_64-linux-gnu".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<http://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
```



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<<http://www.gnu.org/software/gdb/bugs/>>.

Find the GDB manual and other documentation resources online at:

<<http://www.gnu.org/software/gdb/documentation/>>.

For help, type "help".

Type "apropos word" to search for commands related to "word"...

Reading symbols from ./hello...

(gdb) q

osboxes@osboxes:~/Documents\$ gcc -g -O0 helloworld.c -o hello

osboxes@osboxes:~/Documents\$ gdb ./hello

GNU gdb (Ubuntu 9.2-0ubuntu2) 9.2

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Type "show copying" and "show warranty" for details.

This GDB was configured as "x86\_64-linux-gnu".

Type "show configuration" for configuration details.

For bug reporting instructions, please see:

<<http://www.gnu.org/software/gdb/bugs/>>.

Find the GDB manual and other documentation resources online at:

<<http://www.gnu.org/software/gdb/documentation/>>.

For help, type "help".

Type "apropos word" to search for commands related to "word"...

Reading symbols from ./hello...

(gdb) p x

No symbol "x" in current context.

(gdb) █