AOS assignment 2

System configuration: -

Ubuntu Version used: ubuntu-16.04

Base Linux Kernel Version: 4.15.0

Target Linux Kernel Version: 4.19.210

1. Have downloaded Linux Kernel version 4.19.210 using GNU wget

2. The downloaded file is of tar type (compressed version). Hence, we will have to extract the kernel source code.
   I have extracted downloaded kernel tar file to target directory

3. Creating new <SystemCalls>.c files
   Each system call file is created in a respective new directory under Linux 4.19.210 folder

   I. aadeshhello()

   The system call prints Welcome message into Linux logs.
   aadeshello is the new system call which does not take any arguments.

   Now create a Makefile in the same folder

   This mentions that hello1.c is compiled to hello1.o so that it can be included in Kernel source code during compilation.

   II. aadeshprint(char *)

   The system call prints a message along with string argument passed into Linux logs.

   aadeshprint system call expects a char* parameter. Hence, we use SYSCALL_DEFINE1 to mention kernel that it expects an argument.

   Now create a Makefile in the same folder

   This mentions that hello2.c is compiled to hello2.o so that it can be included in Kernel source code during compilation.

   III. aadeshprocess()

The system call prints current Process ID and Parent's Process ID into Linux logs.

Now create a Makefile in the same folder

This mentions that hello3.c is compiled to hello3.o so that it can be included in Kernel source code during compilation.

IV. aadeshgetpid()

The system call invokes another system call to get the process ID of current process and returns it to the calling function.

Now create a Makefile in the same folder

This mentions that hello4.c is compiled to hello4.o so that it can be included in Kernel source code during compilation.

4. Under /usr/src/linux-4.19.210/ directory, there exists a Makefile.
   Update this file to mention kernel to consider our new Makefile's created for different system call files.

   Newly added entries are directories which contain Makefile for respective systemcall files.

5. Update Systemcall table to include our new system calls

   Added new system calls at end of list with new system call numbers.
   As aadeshprint() system call is defined by keyword SYSCALL_DEFINE1, it needs '__x64_sys_' appended before system call name in the table.

6. For the system calls defined by keyword asmlinkage, add them to the system call headers file

   Have added the system call declarations to end of file.

   asmlinkage keyword mentions that arguments to system calls are available on stack.

7. Update Kernel.
   For upgrading the Kernel and to start compilation, have executed the following commands

```
sudo apt-get install gcc
sudo apt-get install libncurses5-dev
sudo apt-get install bison
sudo apt-get install flex
sudo apt-get install libssl-dev
sudo apt-get install libelf-dev
```

```
sudo apt-get update
sudo apt-get upgrade
```

8. Create .config file
   For creating .config file which will be used for Kernel compilation, executed the following command under directory /usr/src/linux-4.19.210/

   ```
   sudo make menuconfig
   ```

   A pop-up window appears allowing us to modify configurations and save the .config file

9. Once the .config file is created, we can start the Kernel compilation

10. After the compilation of new Kernel gets finished, we can install the modules

    This step installs modules of Kernel and creates boot files for Kernel in the corresponding directory.

    Compilation and installation of new Kernel is completed. We can restart the machine to open with the new Kernel version.

11. Check the Kernel version of the logged in system to be new Kernel version

12. Test the new system calls
    For testing new system calls, I have created new <>.c files to call system calls and check the results.
    i. **aadeshhello() – System call number 548**

       Compile and execute the program and observe the output.

       Check the output printed by system call in Kernel log

       Command: dmesg

    ii. **aadeshprint(char *) – System call number 335**

       Compile and execute the following program and observe the output.

Check the output printed by system call in Kernel log

Command: dmesg

iii. aadeshgetpid() – System call number 336

Compile and execute the following program and observe the output.

Check the output printed by system call in Kernel log

Command: dmesg

Notice that Process ID of Current and Parent are different.
Current Process ID is the Process_ID of System Call whereas Parent Process ID is the Process_ID of the calling process (test3).

iv. aadeshgetpid() – System call number 337

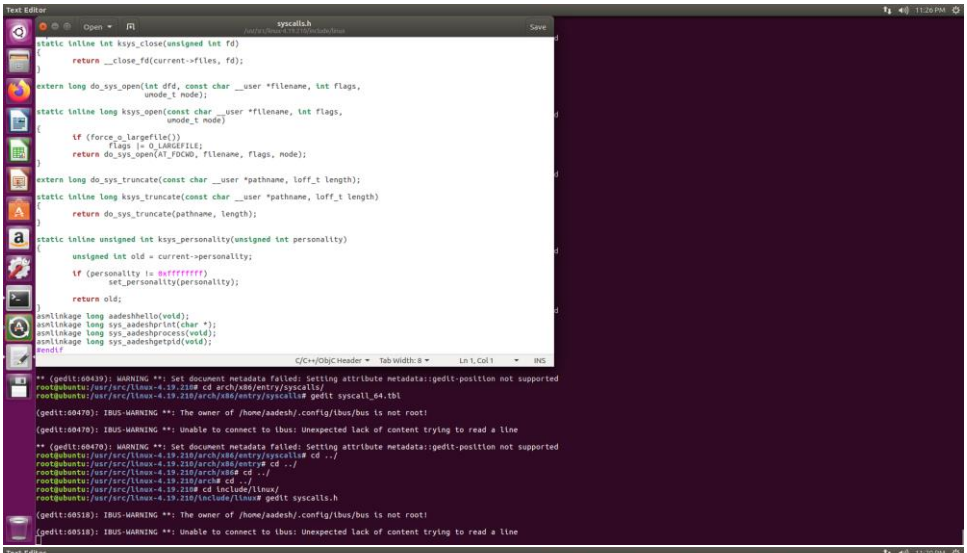
Compile and execute the following program and observe the output.

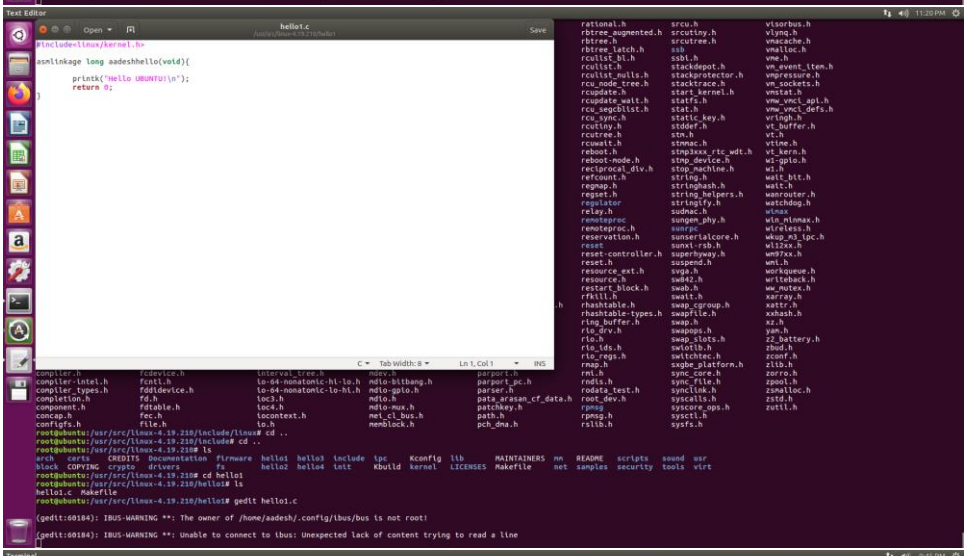
Check the output printed by system call in Kernel log

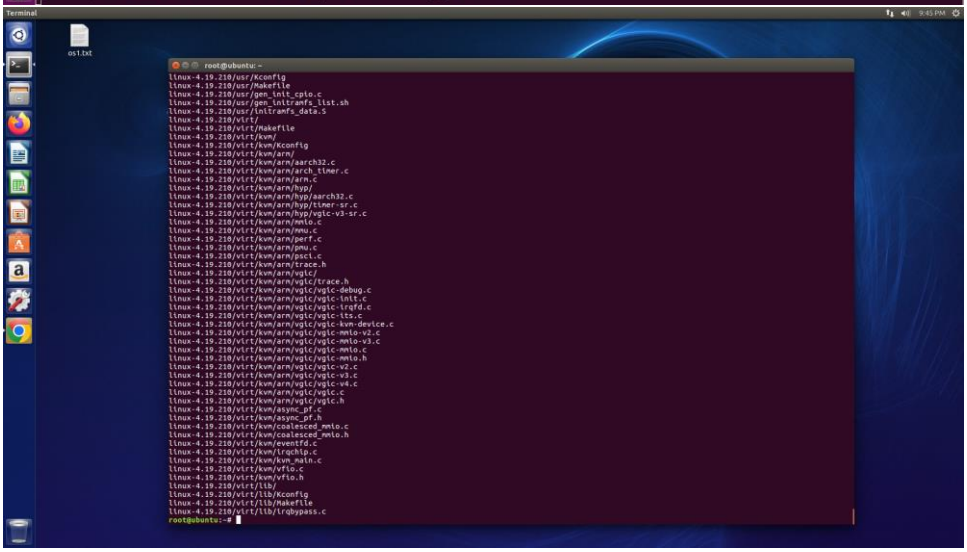
Command: dmesg

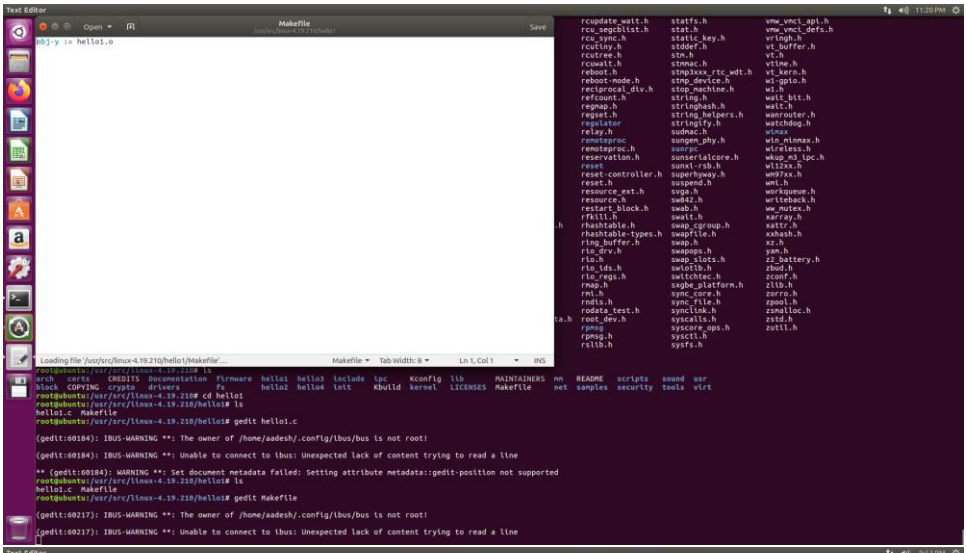
PHOTOS:

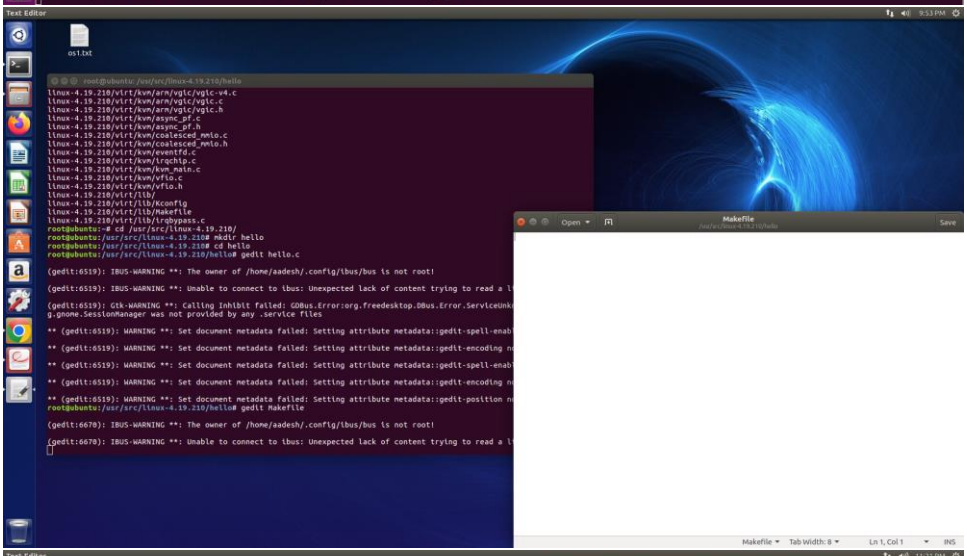
I have added photos to this link(I was unable to add remaining photos due to some error so I have provided this link): os photos

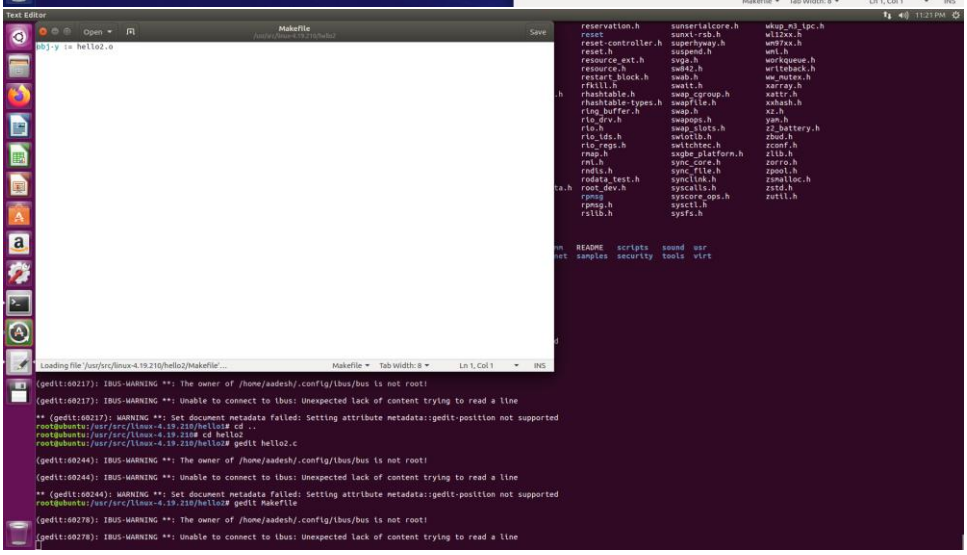

Text Editor
11:26 PM
Open
syscalls.h
/usr/src/linux-4.19.210/include/linux
Save
static inline int ksys_close(unsigned int fd)
{
return __close_fd(current->files, fd);
}
extern long do_sys_open(int dfd, const char __user *filename, int flags,
umode_t mode);
static inline long ksys_open(const char __user *filename, int flags,
umode_t mode)
{
if (force_o_largefile())
flags |= O_LARGEFILE;
return do_sys_open(AT_FDCWD, filename, flags, mode);
}
extern long do_sys_truncate(const char __user *pathname, loff_t length);
static inline long ksys_truncate(const char __user *pathname, loff_t length)
{
return do_sys_truncate(pathname, length);
}
static inline unsigned int ksys_personality(unsigned int personality)
{
unsigned int old = current->personality;
if (personality != 0xffffffff)
set_personality(personality);
return old;
}
asmlinkage long aadeshhello(void);
asmlinkage long sys_aadeshprint(char *);
asmlinkage long sys_aadeshprocess(void);
asmlinkage long sys_aadeshgetpid(void);
#endif
C/C++/ObjC Header
Tab Width: 8
Ln 1, Col 1
INS
** (gedit:60439): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210# cd arch/x86/entry/syscalls/
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# gedit syscall_64.tbl
(gedit:60470): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60470): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60470): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# cd ../
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry# cd ../
root@ubuntu:/usr/src/linux-4.19.210/arch/x86# cd ../
root@ubuntu:/usr/src/linux-4.19.210/arch# cd ../
root@ubuntu:/usr/src/linux-4.19.210# cd include/linux/
root@ubuntu:/usr/src/linux-4.19.210/include/linux# gedit syscalls.h
(gedit:60518): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60518): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line

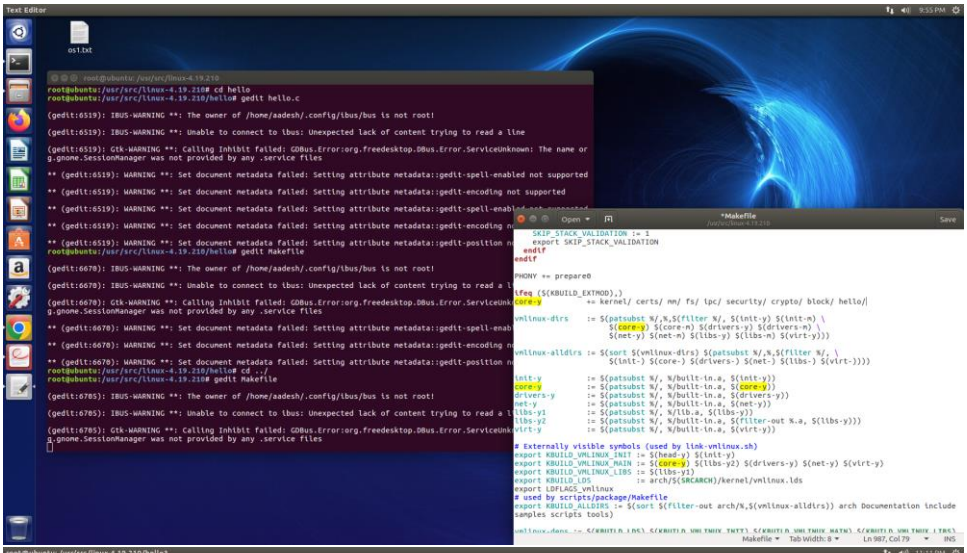

Text Editor
11:20 PM
Open
hello1.c
/usr/src/linux-4.19.210/hello1
Save
#include<linux/kernel.h>
asmlinkage long aadeshhello(void){
printk("Hello UBUNTU!\n");
return 0;
}
C
Tab Width: 8
Ln 1, Col 1
INS
root@ubuntu:/usr/src/linux-4.19.210/include/linux# cd ..
root@ubuntu:/usr/src/linux-4.19.210/include# cd ..
root@ubuntu:/usr/src/linux-4.19.210# ls
root@ubuntu:/usr/src/linux-4.19.210# cd hello1
root@ubuntu:/usr/src/linux-4.19.210/hello1# ls
hello1.c Makefile
root@ubuntu:/usr/src/linux-4.19.210/hello1# gedit hello1.c
(gedit:60184): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60184): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line

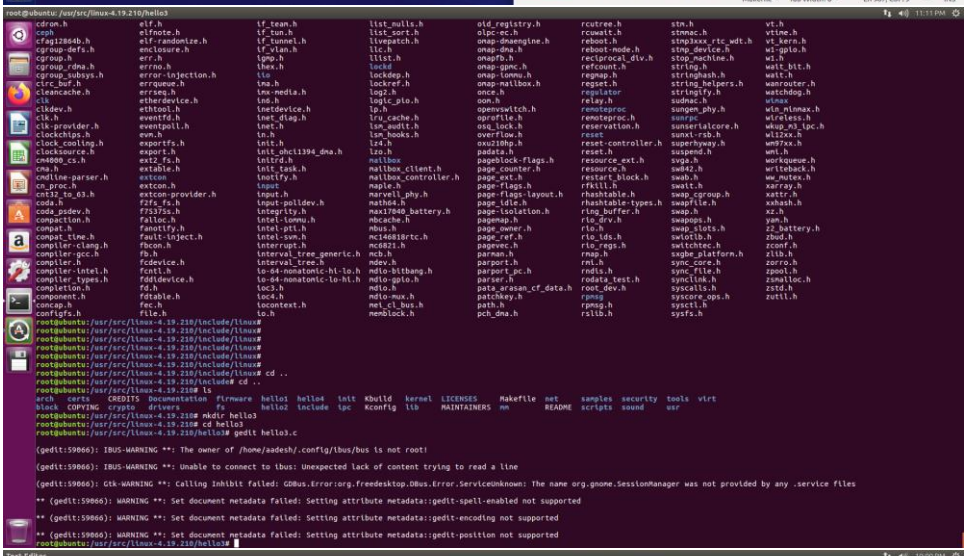

Terminal
9:45 PM
os1.txt
root@ubuntu: ~
linux-4.19.210/usr/Kconfig
linux-4.19.210/usr/Makefile
linux-4.19.210/usr/gen_init_cpio.c
linux-4.19.210/usr/gen_initramfs_list.sh
linux-4.19.210/usr/initramfs_data.S
linux-4.19.210/virt/
linux-4.19.210/virt/Makefile
linux-4.19.210/virt/kvm/
linux-4.19.210/virt/kvm/Kconfig
linux-4.19.210/virt/kvm/arm/
linux-4.19.210/virt/kvm/arm/aarch32.c
linux-4.19.210/virt/kvm/arm/arch_timer.c
linux-4.19.210/virt/kvm/arm/arm.c
linux-4.19.210/virt/kvm/arm/hyp/
linux-4.19.210/virt/kvm/arm/hyp/aarch32.c
linux-4.19.210/virt/kvm/arm/hyp/timer-sr.c
linux-4.19.210/virt/kvm/arm/hyp/vgic-v3-sr.c
linux-4.19.210/virt/kvm/arm/mmio.c
linux-4.19.210/virt/kvm/arm/mmu.c
linux-4.19.210/virt/kvm/arm/perf.c
linux-4.19.210/virt/kvm/arm/pmu.c
linux-4.19.210/virt/kvm/arm/psci.c
linux-4.19.210/virt/kvm/arm/trace.h
linux-4.19.210/virt/kvm/arm/vgic/
linux-4.19.210/virt/kvm/arm/vgic/trace.h
linux-4.19.210/virt/kvm/arm/vgic/vgic-debug.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-init.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-irqfd.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-its.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-kvm-device.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio-v2.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio-v3.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio.h
linux-4.19.210/virt/kvm/arm/vgic/vgic-v2.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-v3.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-v4.c
linux-4.19.210/virt/kvm/arm/vgic/vgic.c
linux-4.19.210/virt/kvm/arm/vgic/vgic.h
linux-4.19.210/virt/kvm/async_pf.c
linux-4.19.210/virt/kvm/async_pf.h
linux-4.19.210/virt/kvm/coalesced_mmio.c
linux-4.19.210/virt/kvm/coalesced_mmio.h
linux-4.19.210/virt/kvm/eventfd.c
linux-4.19.210/virt/kvm/irqchip.c
linux-4.19.210/virt/kvm/kvm_main.c
linux-4.19.210/virt/kvm/vfio.c
linux-4.19.210/virt/kvm/vfio.h
linux-4.19.210/virt/lib/
linux-4.19.210/virt/lib/Kconfig
linux-4.19.210/virt/lib/Makefile
linux-4.19.210/virt/lib/irqbypass.c
root@ubuntu:~#

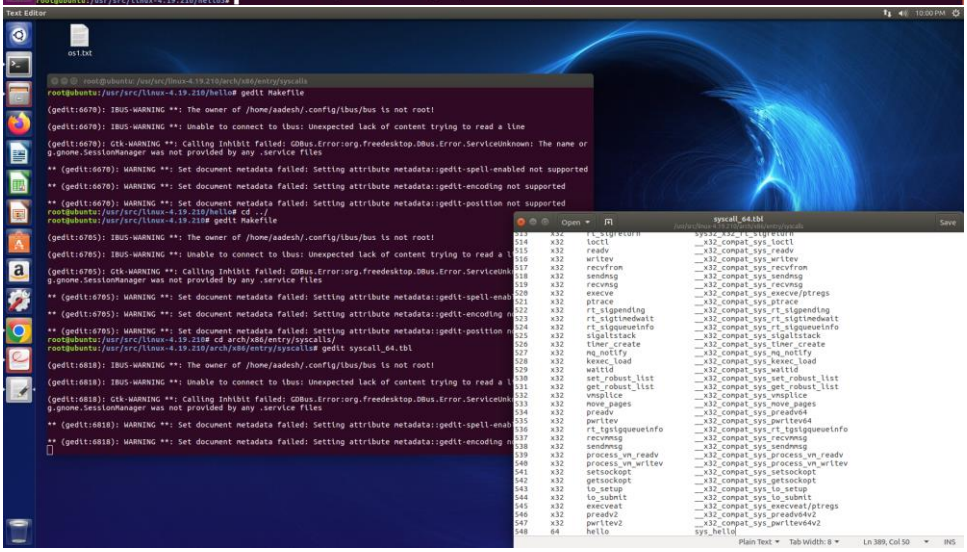

Text Editor
Makefile
obj-y := hello1.o
root@ubuntu:/usr/src/linux-4.19.210# ls
arch certs CREDITS Documentation firmware hello1 hello3 include ipc Kconfig lib MAINTAINERS mm README scripts sound usr
block COPYING crypto drivers fs hello2 hello4 init Kbuild kernel LICENSES Makefile net samples security tools virt
root@ubuntu:/usr/src/linux-4.19.210# cd hello1
root@ubuntu:/usr/src/linux-4.19.210/hello1# ls
hello1.c Makefile
root@ubuntu:/usr/src/linux-4.19.210/hello1# gedit hello1.c
(gedit:60184): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60184): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60184): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello1# ls
hello1.c Makefile
root@ubuntu:/usr/src/linux-4.19.210/hello1# gedit Makefile
(gedit:60217): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60217): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line

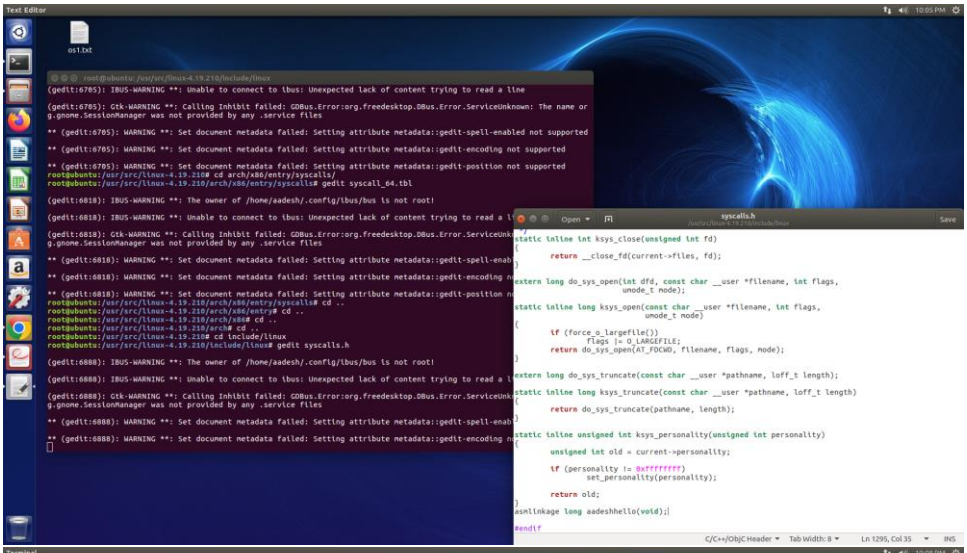

Text Editor
os1.txt
root@ubuntu: /usr/src/linux-4.19.210/hello
linux-4.19.210/virt/kvm/arm/vgic/vgic-v4.c
linux-4.19.210/virt/kvm/arm/vgic/vgic.c
linux-4.19.210/virt/kvm/arm/vgic/vgic.h
linux-4.19.210/virt/kvm/async_pf.c
linux-4.19.210/virt/kvm/async_pf.h
linux-4.19.210/virt/kvm/coalesced_mmio.c
linux-4.19.210/virt/kvm/coalesced_mmio.h
linux-4.19.210/virt/kvm/eventfd.c
linux-4.19.210/virt/kvm/irqchip.c
linux-4.19.210/virt/kvm/kvm_main.c
linux-4.19.210/virt/kvm/vfio.c
linux-4.19.210/virt/kvm/vfio.h
linux-4.19.210/virt/lib/
linux-4.19.210/virt/lib/Kconfig
linux-4.19.210/virt/lib/Makefile
linux-4.19.210/virt/lib/irqbypass.c
root@ubuntu:~# cd /usr/src/linux-4.19.210/
root@ubuntu:/usr/src/linux-4.19.210# mkdir hello
root@ubuntu:/usr/src/linux-4.19.210# cd hello
root@ubuntu:/usr/src/linux-4.19.210/hello# gedit hello.c
(gedit:6519): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6519): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a l
(gedit:6519): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnk
g.gnome.SessionManager was not provided by any .service files
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enab
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding n
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enab
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding n
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position n
root@ubuntu:/usr/src/linux-4.19.210/hello# gedit Makefile
(gedit:6670): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6670): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a l
Makefile
Tab Width: 8
Ln 1, Col 1
INS

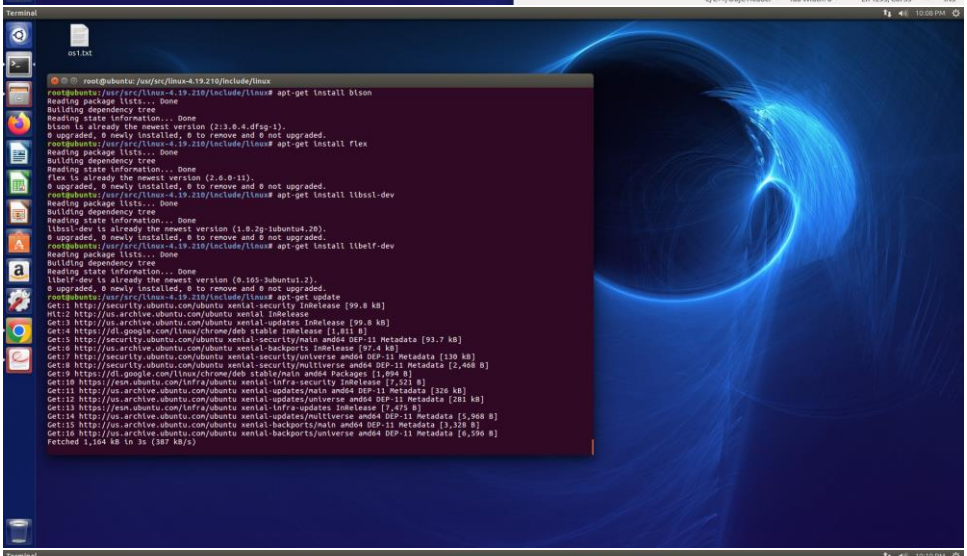

Text Editor
Makefile
obj-y := hello2.o
Loading file '/usr/src/linux-4.19.210/hello2/Makefile'...
Tab Width: 8
Ln 1, Col 1
INS
(gedit:60217): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60217): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60217): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello# cd ..
root@ubuntu:/usr/src/linux-4.19.210# cd hello2
root@ubuntu:/usr/src/linux-4.19.210/hello2# gedit hello2.c
(gedit:60244): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60244): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60244): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello2# gedit Makefile
(gedit:60278): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60278): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line

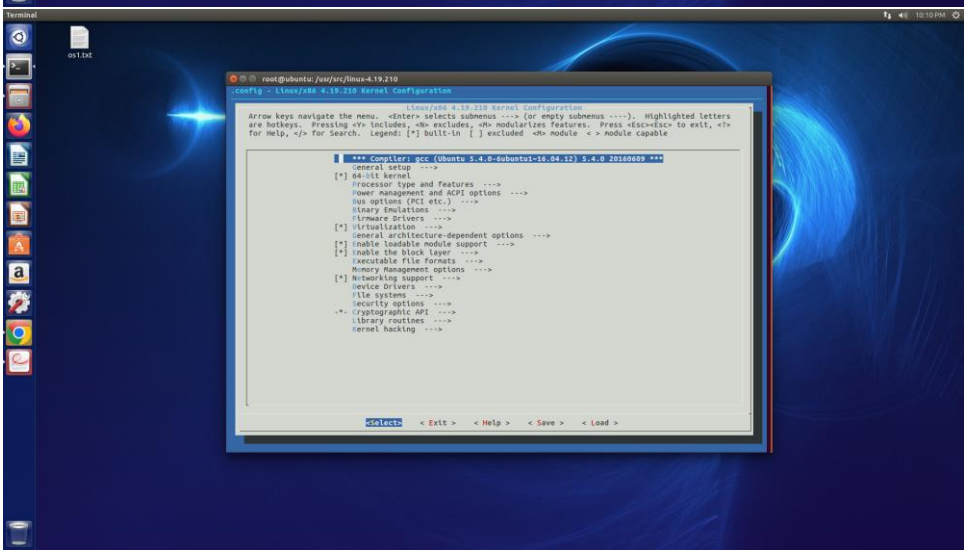

Text Editor
os1.txt
root@ubuntu: /usr/src/linux-4.19.210
root@ubuntu:/usr/src/linux-4.19.210# cd hello
root@ubuntu:/usr/src/linux-4.19.210/hello# gedit hello.c
(gedit:6519): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6519): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6519): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:6519): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello# gedit Makefile
(gedit:6670): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6670): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6670): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6670): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6670): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:6670): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello# cd ../..
root@ubuntu:/usr/src/linux-4.19.210# gedit Makefile
(gedit:6785): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6785): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6785): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
*Makefile
Open
Save
SKIP_STACK_VALIDATION := 1
export SKIP_STACK_VALIDATION
endif
endif
PHONY += prepare0
ifeq ($(KBUILD_EXTMOD),)
core-y += kernel/ certs/ mm/ fs/ ipc/ security/ crypto/ block/ hello/
vmlinux-dirs := $(patsubst %/,%,$(filter %/, $(init-y) $(init-m) \
$(core-y) $(core-m) $(drivers-y) $(drivers-m) \
$(net-y) $(net-m) $(libs-y) $(libs-m) $(virt-y)))
vmlinux-alldirs := $(sort $(vmlinux-dirs) $(patsubst %/,%,$(filter %/, \
$(init-) $(core-) $(drivers-) $(net-) $(libs-) $(virt-))))
init-y := $(patsubst %/, %/built-in.a, $(init-y))
core-y := $(patsubst %/, %/built-in.a, $(core-y))
drivers-y := $(patsubst %/, %/built-in.a, $(drivers-y))
net-y := $(patsubst %/, %/built-in.a, $(net-y))
libs-y1 := $(patsubst %/, %/lib.a, $(libs-y))
libs-y2 := $(patsubst %/, %/built-in.a, $(filter-out %.a, $(libs-y)))
virt-y := $(patsubst %/, %/built-in.a, $(virt-y))
Externally visible symbols (used by link-vmlinux.sh)
export KBUILD_VMLINUX_INIT := $(head-y) $(init-y)
export KBUILD_VMLINUX_MAIN := $(core-y) $(libs-y2) $(drivers-y) $(net-y) $(virt-y)
export KBUILD_VMLINUX_LIBS := $(libs-y1)
export KBUILD_LDS := arch/$(SRCARCH)/kernel/vmlinux.lds
export LDFLAGS_vmlinux
used by scripts/package/Makefile
export KBUILD_ALLDIRS := $(sort $(filter-out arch/%,$(vmlinux-alldirs)) arch Documentation include samples scripts tools)
Makefile
Tab Width: 8
Ln 987, Col 79
INS

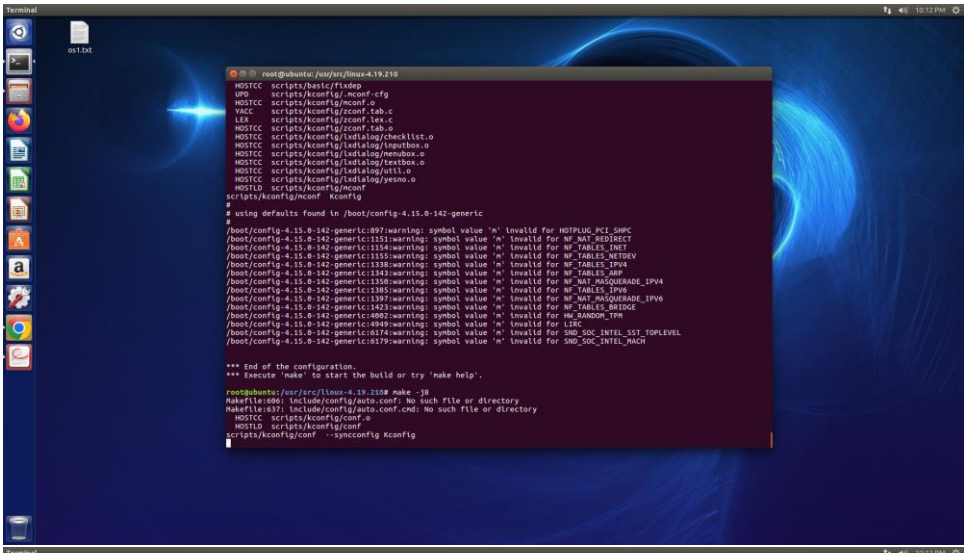

root@ubuntu: /usr/src/linux-4.19.210/hello3
cdrom.h elf.h if_team.h list_nulls.h old_registry.h rcutree.h stm.h vt.h
ceph elfnote.h if_tun.h list_sort.h olpc-ec.h rcuwait.h stmmac.h vtime.h
cfag12864b.h elf-randomize.h if_tunnel.h livepatch.h onap-dnaengine.h reboot.h stmp3xxx_rtc_wdt.h vt_kern.h
cgroup-defs.h enclosure.h if_vlan.h llc.h onap-dna.h reboot-mode.h stmp_device.h w1-gpio.h
cgroup.h err.h igmp.h llist.h onapfb.h reciprocal_div.h stop_machine.h w1.h
cgroup_rdma.h errno.h ihex.h lockd onap-gpmc.h refcount.h string.h wait_bit.h
cgroup_subsys.h error-injection.h ila lockdep.h onap-iommu.h regmap.h stringhash.h wait.h
ctrc_buf.h errqueue.h ima.h lockref.h onap-mailbox.h regset.h string_helpers.h wanrouter.h
cleancache.h errseq.h imx-media.h log2.h once.h regulator strnlify.h watchdog.h
clk ethdevice.h in6.h logic_pio.h oom.h relay.h sudmac.h wimax
clkdev.h ethtool.h inetdevice.h lp.h openvswitch.h remoteproc sungem_phy.h win_minmax.h
clk.h eventfd.h inet_diag.h lru_cache.h oprofile.h remoteproc.h sunrpc wireless.h
clk-provider.h eventpoll.h inet.h lsm_audit.h osq_lock.h reservation.h sunserialcore.h wkup_m3_ipc.h
clockchips.h evm.h in.h lsm_hooks.h overflow.h reset sunxi-rsb.h wl12xx.h
clock_cooling.h exportfs.h init.h lz4.h oxu210hp.h reset-controller.h superhyway.h wm97xx.h
clocksource.h export.h init_ohci1394_dma.h lzo.h padata.h resets.h suspend.h wmi.h
cm4000_cs.h ext2_fs.h initrd.h mailbox pageblock-flags.h resource_ext.h svga.h workqueue.h
cma.h extable.h init_task.h mailbox_client.h page_counter.h resource_h sw842.h writeback.h
cmdline-parser.h extcon inotify.h mailbox_controller.h page_ext.h restart_block.h swab.h ww_mutex.h
cn_proc.h extcon.h input maple.h page-flags.h rfkill.h swait.h xarray.h
cn12_to_63.h extcon-provider.h input.h marvell_phy.h page-flags-layout.h rhashtable.h swap_cgroup.h xattr.h
coda.h f2fs_fs.h input-polldev.h math64.h page_idle.h rhashtable-types.h swapfile.h xxhash.h
coda_psdev.h f75375s.h integrity.h max17040_battery.h page-isolation.h ring_buffer.h swap.h xz.h
compaction.h fallocate.h intel-iommu.h mbcache.h pagemap.h rio_drv.h swapops.h yam.h
compat.h fanotify.h intel-pti.h mbus.h page_owner.h rio.h swap_slots.h z2_battery.h
compat_time.h fault-inject.h intel-svm.h mc146818rtc.h page_ref.h rio_ids.h swiotlb.h zbud.h
compiler-clang.h fbcon.h interrupt.h mc6821.h pagevec.h rio_regs.h switchtec.h zconf.h
compiler-gcc.h fb.h interval_tree_generic.h mcb.h parman.h rmap.h sxgbe_platform.h zlib.h
compiler.h fcdevice.h interval_tree.h mdev.h parport.h rmi.h sync_core.h zorro.h
compiler-intel.h fcntl.h io-64-nonatomic-hi-lo.h mdio-bitbang.h parport_pc.h rndis.h sync_file.h zpool.h
compiler_types.h fddidevice.h io-64-nonatomic-lo-hi.h mdio-gpio.h parser.h rodata_test.h synclink.h zsmalloc.h
completion.h fd.h ioc3.h mdio.h pata_arasan_cf_data.h root_dev.h syscalls.h zstd.h
component.h fdtable.h ioc4.h mdio-mux.h patchkey.h rpmsg syscore_ops.h zutil.h
concap.h fec.h iocontext.h mei_cl_bus.h path.h rpmsg.h sysctl.h
configfs.h file.h io.h memblock.h pch_dma.h rslib.h sysfs.h
root@ubuntu:/usr/src/linux-4.19.210/include/linux#
root@ubuntu:/usr/src/linux-4.19.210/include/linux#
root@ubuntu:/usr/src/linux-4.19.210/include/linux#
root@ubuntu:/usr/src/linux-4.19.210/include/linux#
root@ubuntu:/usr/src/linux-4.19.210/include/linux#
root@ubuntu:/usr/src/linux-4.19.210/include/linux# cd ..
root@ubuntu:/usr/src/linux-4.19.210/include# cd ..
root@ubuntu:/usr/src/linux-4.19.210# ls
arch certs CREDITS Documentation firmware hello1 hello4 init Kbuild kernel LICENSES Makefile net samples security tools virt
block COPYING crypto drivers fs hello2 include ipc Kconfig lib MAINTAINERS mm README scripts sound usr
root@ubuntu:/usr/src/linux-4.19.210# mkdir hello3
root@ubuntu:/usr/src/linux-4.19.210# cd hello3
root@ubuntu:/usr/src/linux-4.19.210/hello3# gedit hello3.c
(gedit:59066): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:59066): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:59066): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:59066): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:59066): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:59066): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello3#

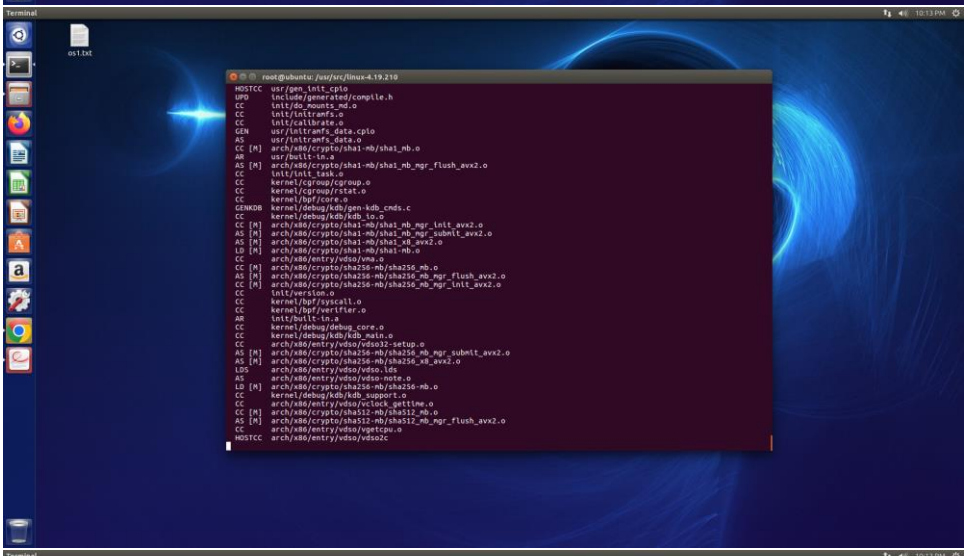

Text Editor
os1.txt
root@ubuntu: /usr/src/linux-4.19.210/arch/x86/entry/syscalls
root@ubuntu:/usr/src/linux-4.19.210/hello# gedit Makefile
(gedit:6670): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6670): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6670): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6670): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6670): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:6670): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello# cd ../..
root@ubuntu:/usr/src/linux-4.19.210# gedit Makefile
(gedit:6785): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6785): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6785): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6785): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6785): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:6785): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls/
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# gedit syscall_64.tbl
(gedit:6818): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6818): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6818): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6818): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6818): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
syscall_64.tbl
Open
Save
513 x32 rt_sigreturn sys32_x32_rt_sigreturn
514 x32 ioctl __x32_compat_sys_ioctl
515 x32 readv __x32_compat_sys_readv
516 x32 writev __x32_compat_sys_writev
517 x32 recvfrom __x32_compat_sys_recvfrom
518 x32 sendmsg __x32_compat_sys_sendmsg
519 x32 recvmsg __x32_compat_sys_recvmsg
520 x32 execve __x32_compat_sys_execve/ptregs
521 x32 ptrace __x32_compat_sys_ptrace
522 x32 rt_sigpending __x32_compat_sys_rt_sigpending
523 x32 rt_sigtimedwait __x32_compat_sys_rt_sigtimedwait
524 x32 rt_sigqueueinfo __x32_compat_sys_rt_sigqueueinfo
525 x32 sigaltstack __x32_compat_sys_sigaltstack
526 x32 timer_create __x32_compat_sys_timer_create
527 x32 mq_notify __x32_compat_sys_mq_notify
528 x32 kexec_load __x32_compat_sys_kexec_load
529 x32 waitid __x32_compat_sys_waitid
530 x32 set_robust_list __x32_compat_sys_set_robust_list
531 x32 get_robust_list __x32_compat_sys_get_robust_list
532 x32 vmsplice __x32_compat_sys_vmsplice
533 x32 move_pages __x32_compat_sys_move_pages
534 x32 preadv __x32_compat_sys_preadv64
535 x32 pwritev __x32_compat_sys_pwritev64
536 x32 rt_tgsigqueueinfo __x32_compat_sys_rt_tgsigqueueinfo
537 x32 recvmmsg __x32_compat_sys_recvmmsg
538 x32 sendmmsg __x32_compat_sys_sendmmsg
539 x32 process_vm_readv __x32_compat_sys_process_vm_readv
540 x32 process_vm_writev __x32_compat_sys_process_vm_writev
541 x32 setsockopt __x32_compat_sys_setsockopt
542 x32 getsockopt __x32_compat_sys_getsockopt
543 x32 io_setup __x32_compat_sys_io_setup
544 x32 io_submit __x32_compat_sys_io_submit
545 x32 execveat __x32_compat_sys_execveat/ptregs
546 x32 preadv2 __x32_compat_sys_preadv64v2
547 x32 pwritev2 __x32_compat_sys_pwritev64v2
548 64 hello sys_hello
Plain Text
Tab Width: 8
Ln 389, Col 50
INS

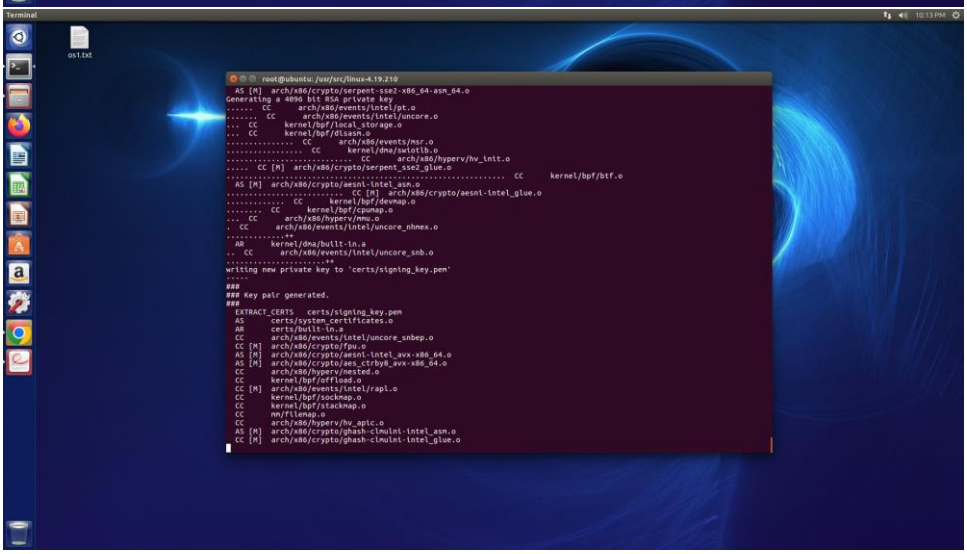

Text Editor
os1.txt
root@ubuntu: /usr/src/linux-4.19.210/include/linux
(gedit:6785): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6785): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6785): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6785): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:6785): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210# cd arch/x86/entry/syscalls/
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# gedit syscall_64.tbl
(gedit:6818): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6818): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6818): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6818): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6818): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
** (gedit:6818): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# cd ..
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry# cd ..
root@ubuntu:/usr/src/linux-4.19.210/arch/x86# cd ..
root@ubuntu:/usr/src/linux-4.19.210/arch# cd ..
root@ubuntu:/usr/src/linux-4.19.210# cd include/linux
root@ubuntu:/usr/src/linux-4.19.210/include/linux# gedit syscalls.h
(gedit:6888): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:6888): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
(gedit:6888): Gtk-WARNING **: Calling Inhibit failed: GDBus.Error:org.freedesktop.DBus.Error.ServiceUnknown: The name org.gnome.SessionManager was not provided by any .service files
** (gedit:6888): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-spell-enabled not supported
** (gedit:6888): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-encoding not supported
Open
syscalls.h
Save
static inline int ksys_close(unsigned int fd)
{
return __close_fd(current->files, fd);
}
extern long do_sys_open(int dfd, const char __user *filename, int flags,
umode_t mode);
static inline long ksys_open(const char __user *filename, int flags,
umode_t mode)
{
if (force_o_largefile())
flags |= O_LARGEFILE;
return do_sys_open(AT_FDCWD, filename, flags, mode);
}
extern long do_sys_truncate(const char __user *pathname, loff_t length);
static inline long ksys_truncate(const char __user *pathname, loff_t length)
{
return do_sys_truncate(pathname, length);
}
static inline unsigned int ksys_personality(unsigned int personality)
{
unsigned int old = current->personality;
if (personality != 0xffffffff)
set_personality(personality);
return old;
}
asmlinkage long aadeshhello(void);
#endif
C/C++/ObjC Header
Tab Width: 8
Ln 1295, Col 35
INS

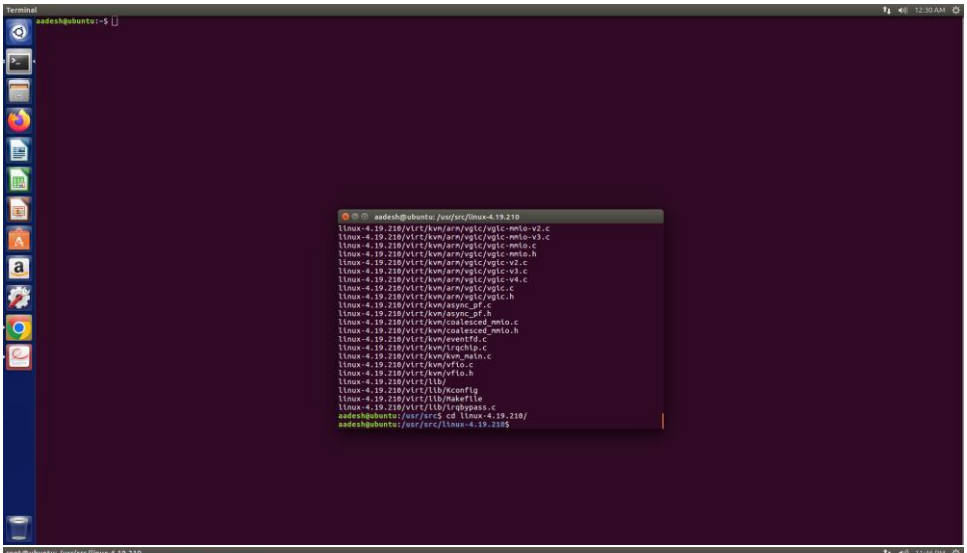

Terminal
os1.txt
root@ubuntu: /usr/src/linux-4.19.210/include/linux
root@ubuntu:/usr/src/linux-4.19.210/include/linux# apt-get install bison
Reading package lists... Done
Building dependency tree
Reading state information... Done
bison is already the newest version (2:3.0.4.dfsg-1).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ubuntu:/usr/src/linux-4.19.210/include/linux# apt-get install flex
Reading package lists... Done
Building dependency tree
Reading state information... Done
flex is already the newest version (2.6.0-11).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ubuntu:/usr/src/linux-4.19.210/include/linux# apt-get install libssl-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
libssl-dev is already the newest version (1.0.2g-1ubuntu4.20).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ubuntu:/usr/src/linux-4.19.210/include/linux# apt-get install libelf-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
libelf-dev is already the newest version (0.165-3ubuntu1.2).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@ubuntu:/usr/src/linux-4.19.210/include/linux# apt-get update
Get:1 http://security.ubuntu.com/ubuntu xenial-security InRelease [99.8 kB]
Htt:2 http://us.archive.ubuntu.com/ubuntu xenial InRelease
Get:3 http://us.archive.ubuntu.com/ubuntu xenial-updates InRelease [99.8 kB]
Get:4 https://dl.google.com/linux/chrome/deb stable InRelease [1,811 B]
Get:5 http://security.ubuntu.com/ubuntu xenial-security/main amd64 DEP-11 Metadata [93.7 kB]
Get:6 http://us.archive.ubuntu.com/ubuntu xenial-backports InRelease [97.4 kB]
Get:7 http://security.ubuntu.com/ubuntu xenial-security/universe amd64 DEP-11 Metadata [130 kB]
Get:8 http://security.ubuntu.com/ubuntu xenial-security/multiverse amd64 DEP-11 Metadata [2,468 B]
Get:9 https://dl.google.com/linux/chrome/deb stable/main amd64 Packages [1,094 B]
Get:10 https://esm.ubuntu.com/infra/ubuntu xenial-infra-security InRelease [7,521 B]
Get:11 http://us.archive.ubuntu.com/ubuntu xenial-updates/main amd64 DEP-11 Metadata [326 kB]
Get:12 http://us.archive.ubuntu.com/ubuntu xenial-updates/universe amd64 DEP-11 Metadata [281 kB]
Get:13 https://esm.ubuntu.com/infra/ubuntu xenial-infra-updates InRelease [7,475 B]
Get:14 http://us.archive.ubuntu.com/ubuntu xenial-updates/multiverse amd64 DEP-11 Metadata [5,968 B]
Get:15 http://us.archive.ubuntu.com/ubuntu xenial-backports/main amd64 DEP-11 Metadata [3,328 B]
Get:16 http://us.archive.ubuntu.com/ubuntu xenial-backports/universe amd64 DEP-11 Metadata [6,596 B]
Fetched 1,164 kB in 3s (387 kB/s)

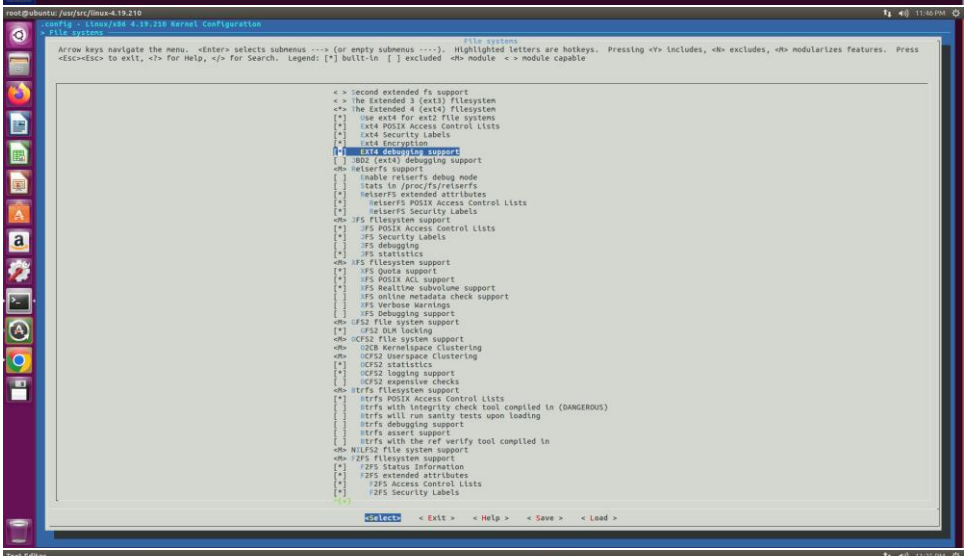

Terminal
os1.txt
root@ubuntu: /usr/src/linux-4.19.210
.config - Linux/x86 4.19.210 Kernel Configuration
Linux/x86 4.19.210 Kernel Configuration
Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [*] built-in [ ] excluded <M> module < > module capable
*** Compiler: gcc (Ubuntu 5.4.0-6ubuntu1~16.04.12) 5.4.0 20160609 ***
General setup --->
[*] 64-bit kernel
Processor type and features --->
Power management and ACPI options --->
Bus options (PCI etc.) --->
Binary Emulations --->
Firmware Drivers --->
[*] Virtualization --->
General architecture-dependent options --->
[*] Enable loadable module support --->
[*] Enable the block layer --->
Executable file formats --->
Memory Management options --->
[*] Networking support --->
Device Drivers --->
File systems --->
Security options --->
-*- Cryptographic API --->
Library routines --->
Kernel hacking --->
<Select> < Exit > < Help > < Save > < Load >

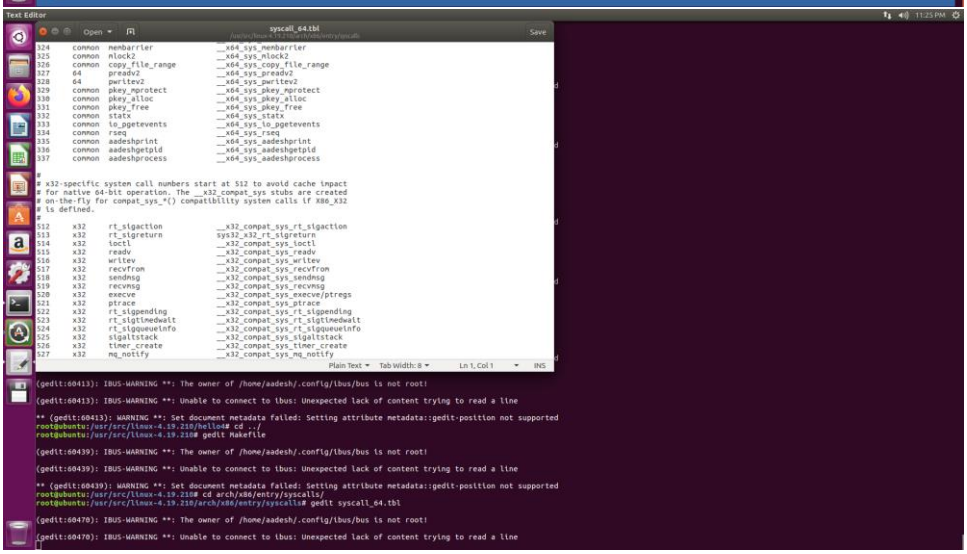

Terminal
os1.txt
root@ubuntu: /usr/src/linux-4.19.210
HOSTCC scripts/basic/fixdep
UPD scripts/kconfig/.mconf-cfg
HOSTCC scripts/kconfig/mconf.o
YACC scripts/kconfig/zconf.tab.c
LEX scripts/kconfig/zconf.lex.c
HOSTCC scripts/kconfig/zconf.tab.o
HOSTCC scripts/kconfig/lxdialog/checklist.o
HOSTCC scripts/kconfig/lxdialog/inputbox.o
HOSTCC scripts/kconfig/lxdialog/menubox.o
HOSTCC scripts/kconfig/lxdialog/textbox.o
HOSTCC scripts/kconfig/lxdialog/util.o
HOSTCC scripts/kconfig/lxdialog/yesno.o
HOSTLD scripts/kconfig/mconf
scripts/kconfig/mconf Kconfig
#
using defaults found in /boot/config-4.15.0-142-generic
#
/boot/config-4.15.0-142-generic:897:warning: symbol value 'm' invalid for HOTPLUG_PCI_SHPC
/boot/config-4.15.0-142-generic:1151:warning: symbol value 'm' invalid for NF_NAT_REDIRECT
/boot/config-4.15.0-142-generic:1154:warning: symbol value 'm' invalid for NF_TABLES_INET
/boot/config-4.15.0-142-generic:1155:warning: symbol value 'm' invalid for NF_TABLES_NETDEV
/boot/config-4.15.0-142-generic:1338:warning: symbol value 'm' invalid for NF_TABLES_IPV4
/boot/config-4.15.0-142-generic:1343:warning: symbol value 'm' invalid for NF_TABLES_ARP
/boot/config-4.15.0-142-generic:1350:warning: symbol value 'm' invalid for NF_NAT_MASQUERADE_IPV4
/boot/config-4.15.0-142-generic:1385:warning: symbol value 'm' invalid for NF_TABLES_IPV6
/boot/config-4.15.0-142-generic:1397:warning: symbol value 'm' invalid for NF_NAT_MASQUERADE_IPV6
/boot/config-4.15.0-142-generic:1423:warning: symbol value 'm' invalid for NF_TABLES_BRIDGE
/boot/config-4.15.0-142-generic:4002:warning: symbol value 'm' invalid for HW_RANDOM_TPM
/boot/config-4.15.0-142-generic:4949:warning: symbol value 'm' invalid for LIRC
/boot/config-4.15.0-142-generic:6174:warning: symbol value 'm' invalid for SND_SOC_INTEL_SST_TOPLEVEL
/boot/config-4.15.0-142-generic:6179:warning: symbol value 'm' invalid for SND_SOC_INTEL_MACH
*** End of the configuration.
*** Execute 'make' to start the build or try 'make help'.
root@ubuntu:/usr/src/linux-4.19.210# make -j8
Makefile:000: include/config/auto.conf: No such file or directory
Makefile:637: include/config/auto.conf.cmd: No such file or directory
HOSTCC scripts/kconfig/conf.o
HOSTLD scripts/kconfig/conf
scripts/kconfig/conf --syncconfig Kconfig

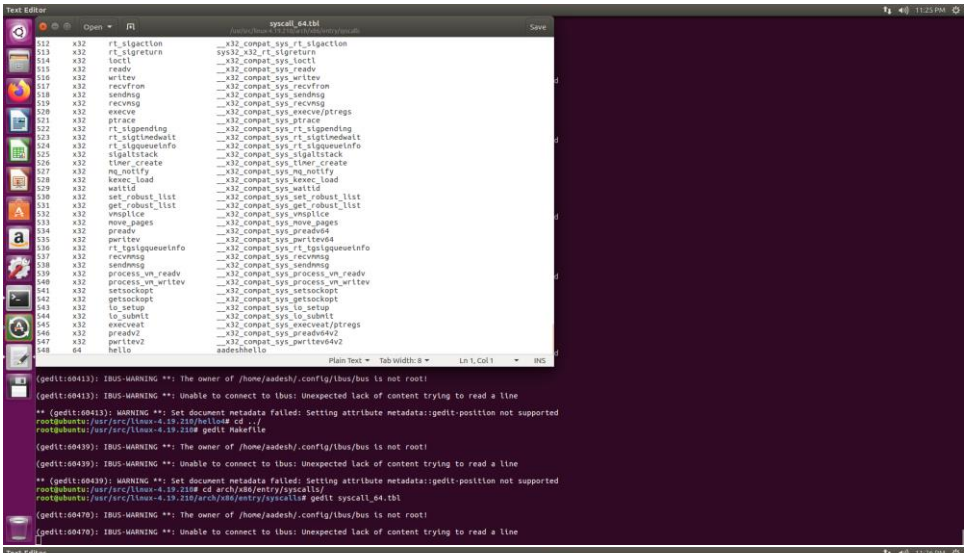

Terminal
os1.txt
root@ubuntu: /usr/src/linux-4.19.210
HOSTCC usr/gen_init_cpio
UPD include/generated/compile.h
CC init/do_mounts_md.o
CC init/initramfs.o
CC init/calibrate.o
GEN usr/initramfs_data.cpio
AS usr/initramfs_data.o
CC [M] arch/x86/crypto/sha1-mb/sha1_mb.o
AR usr/built-in.a
AS [M] arch/x86/crypto/sha1-mb/sha1_mb_mgr_flush_avx2.o
CC init/init_task.o
CC kernel/cgroup/cgroup.o
CC kernel/cgroup/rstat.o
CC kernel/bpf/core.o
GENKDB kernel/debug/kdb/gen-kdb_cmds.c
CC kernel/debug/kdb/kdb_io.o
CC [M] arch/x86/crypto/sha1-mb/sha1_mb_mgr_init_avx2.o
AS [M] arch/x86/crypto/sha1-mb/sha1_mb_mgr_submit_avx2.o
AS [M] arch/x86/crypto/sha1-mb/sha1_x8_avx2.o
LD [M] arch/x86/crypto/sha1-mb/sha1-mb.o
CC arch/x86/entry/vdso/vma.o
CC [M] arch/x86/crypto/sha256-mb/sha256_mb.o
AS [M] arch/x86/crypto/sha256-mb/sha256_mb_mgr_flush_avx2.o
CC [M] arch/x86/crypto/sha256-mb/sha256_mb_mgr_init_avx2.o
CC init/version.o
CC kernel/bpf/syscall.o
CC kernel/bpf/verifier.o
AR init/built-in.a
CC kernel/debug/debug_core.o
CC kernel/debug/kdb/kdb_main.o
CC arch/x86/entry/vdso/vdso32-setup.o
AS [M] arch/x86/crypto/sha256-mb/sha256_mb_mgr_submit_avx2.o
AS [M] arch/x86/crypto/sha256-mb/sha256_x8_avx2.o
LDS arch/x86/entry/vdso/vdso.lds
AS arch/x86/entry/vdso/vdso-note.o
LD [M] arch/x86/crypto/sha256-mb/sha256-mb.o
CC kernel/debug/kdb/kdb_support.o
CC arch/x86/entry/vdso/vclock_gettime.o
CC [M] arch/x86/crypto/sha512-mb/sha512_mb.o
AS [M] arch/x86/crypto/sha512-mb/sha512_mb_mgr_flush_avx2.o
CC arch/x86/entry/vdso/vgetcpu.o
HOSTCC arch/x86/entry/vdso/vdso2c

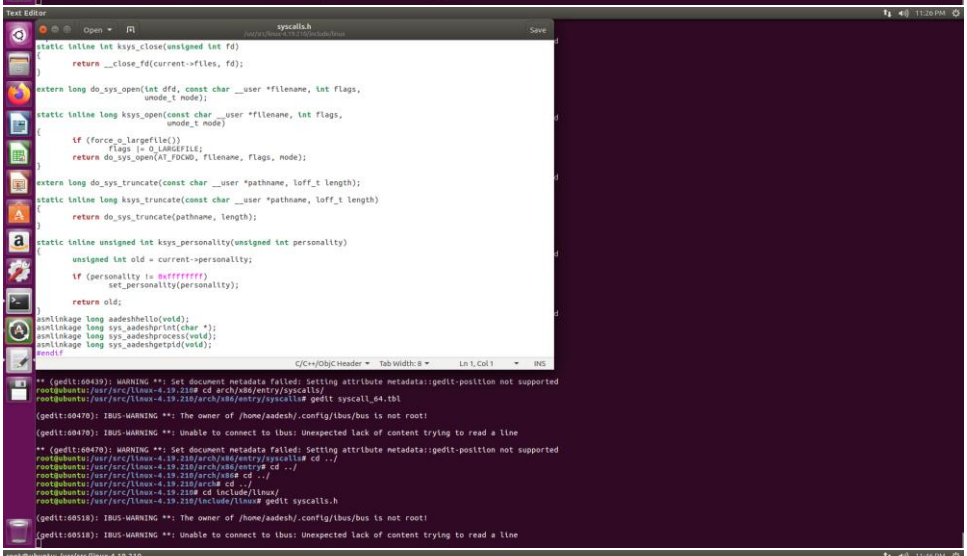

Terminal
os1.txt
root@ubuntu: /usr/src/linux-4.19.210
AS [M] arch/x86/crypto/serpent-sse2-x86_64-asm_64.o
Generating a 4096 bit RSA private key
CC arch/x86/events/intel/pt.o
CC arch/x86/events/intel/uncore.o
CC kernel/bpf/local_storage.o
CC kernel/bpf/disasm.o
CC arch/x86/events/msr.o
CC kernel/dma/swiotlb.o
CC arch/x86/hyperv/hv_init.o
CC [M] arch/x86/crypto/serpent_sse2_glue.o
CC kernel/bpf/btf.o
AS [M] arch/x86/crypto/aesni-intel_asm.o
CC [M] arch/x86/crypto/aesni-intel_glue.o
CC kernel/bpf/devmap.o
CC kernel/bpf/cpumap.o
CC arch/x86/hyperv/mmu.o
CC arch/x86/events/intel/uncore_nhmex.o
AR kernel/dma/built-in.a
CC arch/x86/events/intel/uncore_snb.o
writing new private key to 'certs/signing_key.pem'
###
Key pair generated.
###
EXTRACT_CERTS certs/signing_key.pem
AS certs/system_certificates.o
AR certs/built-in.a
CC arch/x86/events/intel/uncore_snbep.o
CC [M] arch/x86/crypto/fpu.o
AS [M] arch/x86/crypto/aesni-intel_avx-x86_64.o
AS [M] arch/x86/crypto/aes_ctrby8_avx-x86_64.o
CC arch/x86/hyperv/nested.o
CC kernel/bpf/offload.o
CC [M] arch/x86/events/intel/rapl.o
CC kernel/bpf/sockmap.o
CC kernel/bpf/stackmap.o
CC mm/filemap.o
CC arch/x86/hyperv/hv_apic.o
AS [M] arch/x86/crypto/ghash-clmulni-intel_asm.o
CC [M] arch/x86/crypto/ghash-clmulni-intel_glue.o

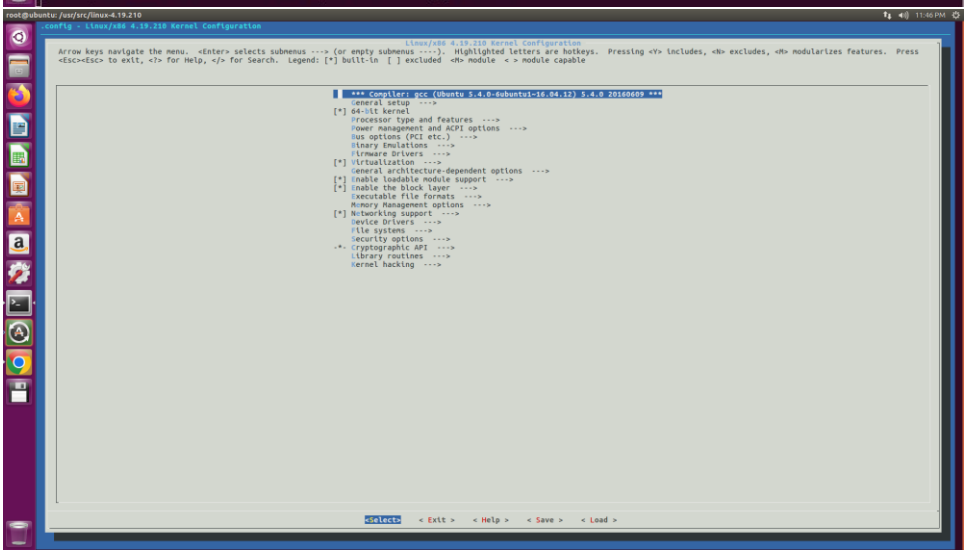

Terminal
aadesh@ubuntu:~$
aadesh@ubuntu: /usr/src/linux-4.19.210
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio-v2.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio-v3.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-mmio.h
linux-4.19.210/virt/kvm/arm/vgic/vgic-v2.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-v3.c
linux-4.19.210/virt/kvm/arm/vgic/vgic-v4.c
linux-4.19.210/virt/kvm/arm/vgic/vgic.c
linux-4.19.210/virt/kvm/arm/vgic/vgic.h
linux-4.19.210/virt/kvm/async_pf.c
linux-4.19.210/virt/kvm/async_pf.h
linux-4.19.210/virt/kvm/coalesced_mmio.c
linux-4.19.210/virt/kvm/coalesced_mmio.h
linux-4.19.210/virt/kvm/eventfd.c
linux-4.19.210/virt/kvm/irqchip.c
linux-4.19.210/virt/kvm/kvm_main.c
linux-4.19.210/virt/kvm/vfio.c
linux-4.19.210/virt/kvm/vfio.h
linux-4.19.210/virt/lib/
linux-4.19.210/virt/lib/Kconfig
linux-4.19.210/virt/lib/Makefile
linux-4.19.210/virt/lib/irqbypass.c
aadesh@ubuntu:/usr/src$ cd linux-4.19.210/
aadesh@ubuntu:/usr/src/linux-4.19.210$


root@ubuntu: /usr/src/linux-4.19.210
.config - Linux/x86 4.19.210 Kernel Configuration
> File systems
File systems
Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [*] built-in [ ] excluded <M> module < > module capable
< > Second extended fs support
< > The Extended 3 (ext3) filesystem
<*> The Extended 4 (ext4) filesystem
[*] Use ext4 for ext2 file systems
[*] Ext4 POSIX Access Control Lists
[*] Ext4 Security Labels
[*] Ext4 Encryption
[*] Ext4 debugging support
[ ] JBD2 (ext4) debugging support
<M> Reiserfs support
[ ] Enable reiserfs debug mode
[ ] Stats in /proc/fs/reiserfs
[*] ReiserFS extended attributes
[*] ReiserFS POSIX Access Control Lists
[*] ReiserFS Security Labels
<M> JFS filesystem support
[*] JFS POSIX Access Control Lists
[*] JFS Security Labels
[ ] JFS debugging
[*] JFS statistics
<M> XFS filesystem support
[*] XFS Quota support
[*] XFS POSIX ACL support
[*] XFS Realtime subvolume support
[ ] XFS online metadata check support
[ ] XFS Verbose Warnings
[ ] XFS Debugging support
<M> GFS2 file system support
[*] GFS2 DLM locking
<M> OCFS2 file system support
<M> O2CB Kernelspace Clustering
<M> OCFS2 Userspace Clustering
[*] OCFS2 statistics
[*] OCFS2 logging support
[ ] OCFS2 expensive checks
<M> Btrfs filesystem support
[*] Btrfs POSIX Access Control Lists
[ ] Btrfs with integrity check tool compiled in (DANGEROUS)
[ ] Btrfs will run sanity tests upon loading
[ ] Btrfs debugging support
[ ] Btrfs assert support
[ ] Btrfs with the ref verify tool compiled in
<M> NILFS2 file system support
<M> F2FS filesystem support
[*] F2FS Status Information
[*] F2FS extended attributes
[*] F2FS Access Control Lists
[*] F2FS Security Labels
<Select> < Exit > < Help > < Save > < Load >


Text Editor
syscall_64.tbl
Open
Save
324 common membarrier __x64_sys_membarrier
325 common mlock2 __x64_sys_mlock2
326 common copy_file_range __x64_sys_copy_file_range
327 64 preadv2 __x64_sys_preadv2
328 64 pwritev2 __x64_sys_pwritev2
329 common pkey_mprotect __x64_sys_pkey_mprotect
330 common pkey_alloc __x64_sys_pkey_alloc
331 common pkey_free __x64_sys_pkey_free
332 common statx __x64_sys_statx
333 common io_pgetevents __x64_sys_io_pgetevents
334 common rseq __x64_sys_rseq
335 common aadeshprint __x64_sys_aadeshprint
336 common aadeshgetpid __x64_sys_aadeshgetpid
337 common aadeshprocess __x64_sys_aadeshprocess
#
x32-specific system call numbers start at 512 to avoid cache impact
for native 64-bit operation. The __x32_compat_sys stubs are created
on-the-fly for compat_sys_*() compatibility system calls if X86_X32
is defined.
#
512 x32 rt_sigaction __x32_compat_sys_rt_sigaction
513 x32 rt_sigreturn sys32_x32_rt_sigreturn
514 x32 ioctl __x32_compat_sys_ioctl
515 x32 readv __x32_compat_sys_readv
516 x32 writev __x32_compat_sys_writev
517 x32 recvfrom __x32_compat_sys_recvfrom
518 x32 sendmsg __x32_compat_sys_sendmsg
519 x32 recvmsg __x32_compat_sys_recvmsg
520 x32 execve __x32_compat_sys_execve/ptregs
521 x32 ptrace __x32_compat_sys_ptrace
522 x32 rt_sigpending __x32_compat_sys_rt_sigpending
523 x32 rt_sigtimedwait __x32_compat_sys_rt_sigtimedwait
524 x32 rt_sigqueueinfo __x32_compat_sys_rt_sigqueueinfo
525 x32 sigaltstack __x32_compat_sys_sigaltstack
526 x32 timer_create __x32_compat_sys_timer_create
527 x32 mq_notify __x32_compat_sys_mq_notify
Plain Text Tab Width: 8 Ln 1, Col 1 INS
(gedit:60413): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60413): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60413): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello# cd ../
root@ubuntu:/usr/src/linux-4.19.210# gedit Makefile
(gedit:60439): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60439): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60439): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210# cd arch/x86/entry/syscalls/
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# gedit syscall_64.tbl
(gedit:60470): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60470): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line


Text Editor
11:25 PM
Open
syscall_64.tbl
/usr/src/linux-4.19.210/arch/x86/entry/syscalls
Save
512 x32 rt_sigaction __x32_compat_sys_rt_sigaction
513 x32 rt_sigreturn sys32_x32_rt_sigreturn
514 x32 ioctl __x32_compat_sys_ioctl
515 x32 readv __x32_compat_sys_readv
516 x32 writev __x32_compat_sys_writev
517 x32 recvfrom __x32_compat_sys_recvfrom
518 x32 sendmsg __x32_compat_sys_sendmsg
519 x32 recvmsg __x32_compat_sys_recvmsg
520 x32 execve __x32_compat_sys_execve/ptregs
521 x32 ptrace __x32_compat_sys_ptrace
522 x32 rt_sigpending __x32_compat_sys_rt_sigpending
523 x32 rt_sigtimedwait __x32_compat_sys_rt_sigtimedwait
524 x32 rt_sigqueueinfo __x32_compat_sys_rt_sigqueueinfo
525 x32 sigaltstack __x32_compat_sys_sigaltstack
526 x32 timer_create __x32_compat_sys_timer_create
527 x32 mq_notify __x32_compat_sys_mq_notify
528 x32 kexec_load __x32_compat_sys_kexec_load
529 x32 waitid __x32_compat_sys_waitid
530 x32 set_robust_list __x32_compat_sys_set_robust_list
531 x32 get_robust_list __x32_compat_sys_get_robust_list
532 x32 vmsplice __x32_compat_sys_vmsplice
533 x32 move_pages __x32_compat_sys_move_pages
534 x32 preadv __x32_compat_sys_preadv64
535 x32 pwritev __x32_compat_sys_pwritev64
536 x32 rt_tgsigqueueinfo __x32_compat_sys_rt_tgsigqueueinfo
537 x32 recvmmsg __x32_compat_sys_recvmmsg
538 x32 sendmmsg __x32_compat_sys_sendmmsg
539 x32 process_vm_readv __x32_compat_sys_process_vm_readv
540 x32 process_vm_writev __x32_compat_sys_process_vm_writev
541 x32 setsockopt __x32_compat_sys_setsockopt
542 x32 getsockopt __x32_compat_sys_getsockopt
543 x32 io_setup __x32_compat_sys_io_setup
544 x32 io_submit __x32_compat_sys_io_submit
545 x32 execveat __x32_compat_sys_execveat/ptregs
546 x32 preadv2 __x32_compat_sys_preadv64v2
547 x32 pwritev2 __x32_compat_sys_pwritev64v2
548 64 hello aadeshhello
Plain Text
Tab Width: 8
Ln 1, Col 1
INS
(gedit:60413): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60413): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60413): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/hello# cd ../
root@ubuntu:/usr/src/linux-4.19.210# gedit Makefile
(gedit:60439): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60439): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60439): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210# cd arch/x86/entry/syscalls/
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# gedit syscall_64.tbl
(gedit:60470): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60470): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line


Text Editor
11:26 PM
Open
syscalls.h
/usr/src/linux-4.19.210/include/linux
Save
static inline int ksys_close(unsigned int fd)
{
return __close_fd(current->files, fd);
}
extern long do_sys_open(int dfd, const char __user *filename, int flags,
umode_t mode);
static inline long ksys_open(const char __user *filename, int flags,
umode_t mode)
{
if (force_o_largefile())
flags |= O_LARGEFILE;
return do_sys_open(AT_FDCWD, filename, flags, mode);
}
extern long do_sys_truncate(const char __user *pathname, loff_t length);
static inline long ksys_truncate(const char __user *pathname, loff_t length)
{
return do_sys_truncate(pathname, length);
}
static inline unsigned int ksys_personality(unsigned int personality)
{
unsigned int old = current->personality;
if (personality != 0xffffffff)
set_personality(personality);
return old;
}
asmlinkage long aadeshhello(void);
asmlinkage long sys_aadeshprint(char *);
asmlinkage long sys_aadeshprocess(void);
asmlinkage long sys_aadeshgetpid(void);
#endif
C/C++/ObjC Header
Tab Width: 8
Ln 1, Col 1
INS
** (gedit:60439): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210# cd arch/x86/entry/syscalls/
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# gedit syscall_64.tbl
(gedit:60470): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60470): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line
** (gedit:60470): WARNING **: Set document metadata failed: Setting attribute metadata::gedit-position not supported
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry/syscalls# cd ../
root@ubuntu:/usr/src/linux-4.19.210/arch/x86/entry# cd ../
root@ubuntu:/usr/src/linux-4.19.210/arch/x86# cd ../
root@ubuntu:/usr/src/linux-4.19.210/arch# cd ../
root@ubuntu:/usr/src/linux-4.19.210# cd include/linux/
root@ubuntu:/usr/src/linux-4.19.210/include/linux# gedit syscalls.h
(gedit:60518): IBUS-WARNING **: The owner of /home/aadesh/.config/ibus/bus is not root!
(gedit:60518): IBUS-WARNING **: Unable to connect to ibus: Unexpected lack of content trying to read a line


root@ubuntu: /usr/src/linux-4.19.210
11:46 PM
.config - Linux/x86 4.19.210 Kernel Configuration
Linux/x86 4.19.210 Kernel Configuration
Arrow keys navigate the menu. <Enter> selects submenus ---> (or empty submenus ----). Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes, <M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </> for Search. Legend: [*] built-in [ ] excluded <M> module < > module capable
*** Compiler: gcc (Ubuntu 5.4.0-6ubuntu1~16.04.12) 5.4.0 20160609 ***
General setup ---->
[*] 64-bit kernel
Processor type and features ---->
Power management and ACPI options ---->
Bus options (PCI etc.) ---->
Binary Emulations ---->
Firmware Drivers ---->
[*] Virtualization ---->
General architecture-dependent options ---->
[*] Enable loadable module support ---->
[*] Enable the block layer ---->
Executable file formats ---->
Memory Management options ---->
[*] Networking support ---->
Device Drivers ---->
File systems ---->
Security options ---->
-*- Cryptographic API ---->
Library routines ---->
Kernel hacking ---->
<Select> < Exit > < Help > < Save > < Load >