



Exam : 117-102

Title : General Linux, Part 2

Ver : 06.02.06

**QUESTION 1:**

What command would load the module msdos.o and all its dependencies?

- A. modinfo -a msdos
- B. lsmod -a msdos
- C. modprobe msdos
- D. insmod -d msdos

Answer: C

Explanation: modprobe command is used to load or unload the modules as well as its dependencies from the kernel.

To Load the module:

modprobe modulename

To unload the module

modprobe -r modulename

---

**QUESTION 2:**

What command will unload a kernel module?

- A. rmmod
- B. unmod
- C. delmod
- D. modprobe
- E. unloadmod

Answer: A

Explanation: rmmod is the simple program, which remove the modules from the kernel.

To unload module from kernel.

rmmod modulename

or

modprobe modulename

---

**QUESTION 3:**

The \_\_\_\_\_ command will list the currently loaded kernel modules.

Answer: lsmod

Explanation: lsmod command displays all modules loaded by kernel as well as modules status on current session.

See the sample output of lsmod command

Module Size Used by

```
i915 81349 2
md5 4033 1
ipv6 232705 10
parport_pc 24705 1
lp 12077 0
parport 37129 2 parport_pc,lp
autofs4 23237 0
sunrpc 157093 1
dm_mod 54741 2
button 6481 0
battery 8901 0
ac 4805 0
raid1 19905 1
uhci_hcd 31065 0
ehci_hcd 30917 0
snd_intel8x0 33769 0
snd_ac97_codec 63889 1 snd_intel8x0
snd_pcm_oss 49017 0
snd_mixer_oss 17985 1 snd_pcm_oss
snd_pcm 96841 2 snd_intel8x0,snd_pcm_oss
snd_timer 29893 1 snd_pcm
snd_page_alloc 9673 2 snd_intel8x0,snd_pcm
snd_mpu401_uart 8769 1 snd_intel8x0
snd_rawmidi 26597 1 snd_mpu401_uart
snd_seq_device 8137 1 snd_rawmidi
snd 54949 9
snd_intel8x0,snd_ac97_codec,snd_pcm_oss,snd_mixer_oss,snd_pcm,snd_timer,snd_mpu401_uart,snd_raw
soundcore 9889 1 snd
8139too 25921 0
mii 4673 1 8139too
floppy 58481 0
ext3 116809 6
jbd 71257 1 ext3
```

---

**QUESTION 4:**

You wish to remove a module from the kernel called fat. Assume this module has no dependencies.

Type in the simplest command to do this:

Answer: `rmmod fat`

Explanation: `rmmod` command removes the module from the kernel. If there are other dependencies modules then `rmmod` command can't remove the module.

To remove the fat module from the kernel.  
rmmod fat

---

**QUESTION 5:**

You have just added new modules to your system. What command would you execute to rebuild the modules.dep file?

- A. depmod --rebuild
- B. update-dependencies
- C. depmod -a
- D. insmod -dependencies

Answer: C

Explanation:

depmod creates a list of module dependencies, by reading each module under /lib/modules/version and determining what symbols it exports, and what symbols it needs. By default this list is written to modules.dep in the same directory.

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**QUESTION 6:**

Which of the following correctly describe the relationship between depmod and modprobe?

- A. depmod creates a dependency file for use by modprobe
- B. modprobe creates a dependency file for use by depmod
- C. they have no relationship
- D. they can replace each other

Answer: A

Explanation:

depmod creates a list of module dependencies, by reading each module under /lib/modules/version and determining what symbols it exports, and what symbols it needs. By default this list is written to modules.dep in the same directory. modprobe command is used to load or unload the modules as well as it's dependencies from the kernel.

To Load the module:

modprobe modulename

To unload the module

modprobe -r modulename

---

**QUESTION 7:**

The normal use of depmod is to include which of the following lines in one of the files in

/etc/rc.d so the correct module dependencies will be available after booting the system?

- A. /sbin/depmod -a
- B. /sbin/depmod -p
- C. /sbin/depmod -r
- D. /sbin/depmod -c

Answer: A

Explanation:

depmod creates a list of module dependencies, by reading each module under /lib/modules/version and determining what symbols it exports, and what symbols it needs. By default this list is written to modules.dep in the same directory. The normal use of depmod is to include the line /sbin/depmod -a in one of the files in /etc/rc.d so the correct module dependencies will be available after booting the system.

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### **QUESTION 8:**

What command option of depmod allows you to print a list of all unresolved symbols?

- A. -e
- B. -l
- C. -i
- D. -a

Answer: A

Explanation: depmod creates a list of module dependencies, by reading each module under /lib/modules/version and determining what symbols it exports, and what symbols it needs. By default this list is written to modules.dep in the same directory. The normal use of depmod is to include the line /sbin/depmod -a in one of the files in /etc/rc.d so the correct module dependencies will be available after booting the system. depmod -e prints a list of all unresolved symbols.

---

### **QUESTION 9:**

Which of the following commands loads the module file into the kernel and changes any symbols that are defined on the command line?

- A. insmod
- B. depmod
- C. modprobe
- D. setmod

Answer: A

Explanation: insmod is a system administration command. Load the module file into the kernel, changing any symbols that are defined on the command line. If the module file is named file.o or file.mod, the module will be named file.

---

**QUESTION 10:**

What option of the insmod command can you use to force the loading of module even if problems are encountered?

- A. -f
- B. -F
- C. -u
- D. -r

Answer: A

Explanation: insmod is a system administration command. -f: Force loading of module, even if some problems are encountered.

---

**QUESTION 11:**

Which of the following commands installs a loadable module in the running kernel?

- A. insmod
- B. depmod
- C. modprobe
- D. setmod

Answer: A

Explanation: insmod installs a loadable module in the running kernel. It tries to link a module into the running kernel by resolving all symbols from the kernel's exported symbol table.

---

**QUESTION 12:**

insmod tries to link a module into the running kernel by resolving all symbols obtained from:

- A. the kernel's exported symbol table.
- B. the kernel's internal pointer base.
- C. the user command argument list.
- D. None of the choices

Answer: A

Explanation: insmod installs a loadable module in the running kernel. It tries to link a module into the running kernel by resolving all symbols from the kernel's exported symbol table.

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**QUESTION 13:**

With insmod, the paths listed in /etc/modules.conf override the paths defined in MODPATH.

- A. true
- B. false

Answer: A

Explanation: If the module file name is given without directories or extension, insmod will search for the module in some common default directories. The environment variable MODPATH can be used to override this default. If a module configuration file such as /etc/modules.conf exists, it will override the paths defined in MODPATH.

---

**QUESTION 14:**

Lsmmod shows information about:

- A. all loaded modules
- B. all updatable modules
- C. all non-updatable modules
- D. all unloaded modules

Answer: A

Explanation: Lsmmod shows information about all loaded modules as well as the status of loaded modules. The format is name, size, use count, list of referring modules. The information displayed is identical to that available from /proc/modules.

---

**QUESTION 15:**

Lsmmod shows information in which of the following formats?

- A. name, size, use count, list of referring modules
- B. name, use count, list of referring modules, size
- C. name, size, list of referring modules, use count
- D. None of the choices

Answer: A

Explanation: lsmod shows information about all loaded modules. The format is name, size, use count, list of referring modules. The information displayed is identical to that available from /proc/modules.

See the sample output

Module Size Used by

i915 81349 2

md5 4033 1

ipv6 232705 10

parport\_pc 24705 1

lp 12077 0

parport 37129 2 parport\_pc,lp

autofs4 23237 0

sunrpc 157093 1

dm\_mod 54741 2

button 6481 0

battery 8901 0

ac 4805 0

raid1 19905 1

uhci\_hcd 31065 0

ehci\_hcd 30917 0

snd\_intel8x0 33769 0

snd\_ac97\_codec 63889 1 snd\_intel8x0

snd\_pcm\_oss 49017 0

snd\_mixer\_oss 17985 1 snd\_pcm\_oss

snd\_pcm 96841 2 snd\_intel8x0,snd\_pcm\_oss

snd\_timer 29893 1 snd\_pcm

snd\_page\_alloc 9673 2 snd\_intel8x0,snd\_pcm

snd\_mpu401\_uart 8769 1 snd\_intel8x0

snd\_rawmidi 26597 1 snd\_mpu401\_uart

snd\_seq\_device 8137 1 snd\_rawmidi

snd 54949 9

snd\_intel8x0,snd\_ac97\_codec,snd\_pcm\_oss,snd\_mixer\_oss,snd\_pcm,snd\_timer,snd\_mpu401\_uart,snd\_rawmidi

soundcore 9889 1 snd

8139too 25921 0

mii 4673 1 8139too

floppy 58481 0

ext3 116809 6

jbd 71257 1 ext3

---

**QUESTION 16:**

The information displayed by lsmod is identical to that available from:



- A. /proc/modules
- B. /proc/depmod
- C. /proc/ls
- D. /proc/lsm

Answer: A

Explanation: lsmod shows information about all loaded modules. The format is name, size, use count, list of referring modules. The information displayed is identical to that available from /proc/modules.

```
cat /proc/modules
```

```
Module Size Used by
```

```
i915 81349 2
```

```
md5 4033 1
```

```
ipv6 232705 10
```

```
parport_pc 24705 1
```

```
lp 12077 0
```

```
parport 37129 2 parport_pc,lp
```

```
autofs4 23237 0
```

```
sunrpc 157093 1
```

```
dm_mod 54741 2
```

```
button 6481 0
```

```
battery 8901 0
```

```
ac 4805 0
```

```
raid1 19905 1
```

```
uhci_hcd 31065 0
```

```
ehci_hcd 30917 0
```

```
snd_intel8x0 33769 0
```

```
snd_ac97_codec 63889 1 snd_intel8x0
```

```
snd_pcm_oss 49017 0
```

```
snd_mixer_oss 17985 1 snd_pcm_oss
```

```
snd_pcm 96841 2 snd_intel8x0,snd_pcm_oss
```

```
snd_timer 29893 1 snd_pcm
```

```
snd_page_alloc 9673 2 snd_intel8x0,snd_pcm
```

```
snd_mpu401_uart 8769 1 snd_intel8x0
```

```
snd_rawmidi 26597 1 snd_mpu401_uart
```

```
snd_seq_device 8137 1 snd_rawmidi
```

```
snd 54949 9
```

```
snd_intel8x0,snd_ac97_codec,snd_pcm_oss,snd_mixer_oss,snd_pcm,snd_timer,snd_mpu401_uart,snd_rawmidi
```

```
soundcore 9889 1 snd
```

```
8139too 25921 0
```

```
mii 4673 1 8139too
```

```
floppy 58481 0
```

```
ext3 116809 6
```

```
jbd 71257 1 ext3
```

**QUESTION 17:**

What command should you use to unload loadable modules from the running kernel?

- A. rmmod
- B. remove -mod
- C. delmod
- D. unload module

Answer: A

Explanation: Rmmod unloads loadable modules from the running kernel. Rmmod tries to unload a set of modules from the kernel, with the restriction that they are not in use and that they are not referred to by other modules. If more than one module is named on the command line, the modules will be removed simultaneously. This supports unloading of stacked modules.

---

**QUESTION 18:**

What command option of rmmod specifies that all outputs be sent to syslog?

- A. -a
- B. -i
- C. -s
- D. -d

Answer: C

Explanation: rmmod unloads loadable modules from the running kernel. -s: Output everything to syslog instead of the terminal.

Syntax:

Rmmod -s or --syslog modulename

Where -s or --syslog à Send errors to the syslog, instead of standard error.

---

**QUESTION 19:**

What utility examines the object file module\_file associated with a kernel module and displays any information that it can glean?

- A. modinfo
- B. modprobe
- C. insmod
- D. depmod

Answer: A

Explanation: modinfo extracts information the Linux Kernel modules given on the command line. If the module name is not a filename, then the /lib/modules/version directory is searched, as done by modprobe

Syntax: modinfo modulename or filename

Example:

```
modinfo ext3
```

Sample output

```
filename: /lib/modules/2.6.9-5.EL/kernel/fs/ext3/ext3.ko
```

```
author: Remy Card, Stephen Tweedie, Andrew Morton, Andreas Dilger, Theodore Ts'o and others
```

```
description: Second Extended Filesystem with journaling extensions
```

```
license: GPL
```

```
vermagic: 2.6.9-5.EL 686 REGPARM 4KSTACKS gcc-3.4
```

```
depends: jbd
```

---

### **QUESTION 20:**

What command option of modinfo can display its version number?

- A. -V
- B. -i
- C. -I
- D. -A

Answer: A

Explanation: -V option is used to display the version number of modules.

Example:

```
modinfo -V ext3
```

output like

```
module-init-tools version 3.1-pre5
```

---

### **QUESTION 21:**

What option of modprobe specifies the loading of all matching modules instead of stopping after the first successful loading?

- A. -a
- B. -f
- C. -c
- D. -e

Answer: A

Explanation: -a, --all: Load all matching modules instead of stopping after the first successful loading.

---

**QUESTION 22:**

What option of modprobe allows you to set 'autoclean' on the loaded modules?

- A. -k
- B. -d
- C. -c
- D. -e

Answer: A

Explanation: -k, --autoclean: Set 'autoclean' on loaded modules. Used by the kernel when it calls on modprobe to satisfy a missing feature (supplied as a module). The -q option is implied by -k. These options will automatically be sent to insmod.

---

**QUESTION 23:**

Modprobe can be used to load (choose all that apply):

- A. a single module
- B. a stack of dependent modules
- C. all modules that are marked with a specified tag
- D. None of the choices

Answer: A,B,C

Modprobe is used to load a single module, a stack of dependent modules, or all modules that are marked with a specified tag.

---

**QUESTION 24:**

Modprobe will automatically load all base modules needed in the module stack as described by its dependency file. What file is this?

- A. modules.dep
- B. modprobe.dep
- C. module.dep
- D. modep.dep

Answer: A

Explanation: depmod creates a list of module dependencies, by reading each module under /lib/modules/version and determining what symbols it exports, and what symbols it needs. By default this list is written to modules.dep in the same directory.

The normal use of depmod is to include the line `/sbin/depmod -a` in one of the files in `/etc/rc.d` so the correct module dependencies will be available after booting the system. `depmod -e` prints a list of all unresolved symbols.

When you tried to load the modules using `modprobe` command it checks the `modules.dep` file generated by `depmod` command to identify the dependencies and load all dependencies as well .

---

**QUESTION 25:**

Which utility is used to create or update the `modules.dep` file? Type the command only.

Answer: `depmod`

Explanation: `depmod` creates a list of module dependencies, by reading each module under `/lib/modules/version` and determining what symbols it exports, and what symbols it needs. By default this list is written to `modules.dep` in the same directory. The normal use of `depmod` is to include the line `/sbin/depmod -a` in one of the files in `/etc/rc.d` so the correct module dependencies will be available after booting the system. `depmod -e` prints a list of all unresolved symbols.

---

**QUESTION 26:**

Type in the simplest command to list all loaded modules:

Answer: `lsmod`

Explanation: `lsmod` shows information about all loaded modules. The format is name, size, use count, list of referring modules. The information displayed is identical to that available from `/proc/modules`.

---

**QUESTION 27:**

You wish to get information on a module called `msdos.o`. Type in the simplest command that would list all information including author and description for the module:

Answer: `modinfo msdos`

Explanation: `modinfo` extracts information the Linux Kernel modules given on the command line. If the module name is not a filename, then the `/lib/modules/version` directory is searched, as done by `modprobe`

Syntax: `modinfo modulename or filename`

Example:

`modinfo ext3`

Sample output

filename: /lib/modules/2.6.9-5.EL/kernel/fs/ext3/ext3.ko  
author: Remy Card, Stephen Tweedie, Andrew Morton, Andreas Dilger, Theodore Ts'o and others  
description: Second Extended Filesystem with journaling extensions  
license: GPL  
vermagic: 2.6.9-5.EL 686 REGPARM 4KSTACKS gcc-3.4  
depends: jbd

---

**QUESTION 28:**

You have a module called msdos.o which has a dependency on fat.o. What single command will load msdos.o and its dependant fat.o module in one command line?

Answer: modprobe msdos

Explanation: modprobe command load the modules with it's all dependencies by reading modules.dep file.

---

**QUESTION 29:**

Type in the simplest command, including any switches, to rebuild the modules.dep file after you have made changes to the modules.conf file:

Answer: depmod -a

Explanation: depmod creates a list of module dependencies, by reading each module under /lib/modules/version and determining what symbols it exports, and what symbols it needs. By default this list is written to modules.dep in the same directory. The normal use of depmod is to include the line /sbin/depmod -a in one of the files in /etc/rc.d so the correct module dependencies will be available after booting the system. depmod -e prints a list of all unresolved symbols.

---

**QUESTION 30:**

Type in the command to list your current kernel version, including any switches:

Answer: uname -a

Answer: uname -r

Explanation: uname command print the system information ie kernel version, kernel name, machine hardware name etc.

Syntax: uname [option]

Options: -a or -all à print all information, in the following order:

-r or --kernel-release à print the kernel release

---

**QUESTION 31:**

You wish to install the module fat.o into the kernel. Type in the simplest command to do this, assuming there are no dependencies for this module:

Answer: insmod fat

Explanation: insmod is a command insert the module into the kernel but it can't resolve the dependencies so to load the module into the kernel with dependencies use the modprobe command.

---

**QUESTION 32:**

What modprobe option will cause inactive kernel modules to be unloaded?

- A. autoclean
- B. inactive
- C. remove
- D. timeout
- E. holdoff

Answer: A

Explanation: modprobe -k or --autoclean option will cause inactive kernel modules to be unloaded.

---

**QUESTION 33:**

You are using insmod. You do not want to use the default configuration file /etc/modules.conf. What environment variable should you modify?

Answer: MODULECONF

Explanation: The environment variable MODULECONF can also be used to select a different configuration file from the default /etc/modules.conf (or /etc/conf.modules (deprecated)). This environment variable will override all the definitions above.

---

**QUESTION 34:**

You can find out how much memory the kernel is using by taking the total amount of memory in your machine and subtracting from it the amount of:

- A. "total mem" in /proc/meminfo
- B. "total mem" in /proc/memused
- C. "total mem" in /proc/memcurrent

D. None of the choices

Answer: A

Explanation: You can find out how much memory the kernel is using by taking the total amount of memory in your machine and subtracting from it the amount of ``total mem" in /proc/meminfo or the output of the command `free'.

See the sample output of /proc/meminfo

```
MemTotal: 118180 kB
MemFree: 19108 kB
Buffers: 4800 kB
Cached: 37860 kB
SwapCached: 8 kB
Active: 38564 kB
Inactive: 24820 kB
HighTotal: 0 kB
HighFree: 0 kB
LowTotal: 118180 kB
LowFree: 19108 kB
SwapTotal: 522072 kB
SwapFree: 522056 kB
Dirty: 100 kB
Writeback: 0 kB
Mapped: 32936 kB
Slab: 7084 kB
Committed_AS: 64768 kB
PageTables: 1036 kB
VmallocTotal: 901112 kB
VmallocUsed: 3252 kB
VmallocChunk: 897140 kB
HugePages_Total: 0
HugePages_Free: 0
Hugepagesize: 4096 kB
See the sample output of free -m command
total used free shared buffers cached
Mem: 115 96 18 0 4 37
-/+ buffers/cache: 55 60
Swap: 509 0 509
```

---

**QUESTION 35:**

What command will load groups of modules into the kernel as needed?

Answer: modprobe



Explanation: modprobe command load the modules with it's all dependencies by reading modules.dep file.

---

**QUESTION 36:**

If the module file name is given without directories or extension, insmod will search for the module in some common default directories. What environment variable can be used to override this?

Answer: MODPATH

Explanation: If the module file name is given without directories or extension, insmod will search for the module in some common default directories. The environment variable MODPATH can be used to override this default. If a module configuration file such as /etc/modules.conf exists, it will override the paths defined in MODPATH.

---

**QUESTION 37:**

Which of the following could be used to load kernel modules for a 2.4.x kernel?

- A. vi/proc/modules
- B. rmmod
- C. kmod
- D. depmod

Answer: C

Explanation: in 2.4.x version kernel, kmod command is used to load the modules.

---

**QUESTION 38:**

Loadable kernel modules can (choose all that apply):

- A. save memory
- B. ease configuration
- C. include filesystems
- D. include ethernet card drivers

Answer: A,B,C,D

Explanation: Loadable kernel modules can save memory and ease configuration. The scope of modules has grown to include filesystems, ethernet card drivers, tape drivers, printer drivers, and more.

---

**QUESTION 39:**

What command would rebuild the ld.so.cache file?

- A. ldd
- B. ldconfig
- C. ld.so.cache -rebuild
- D. ld

Answer: B

Explanation:

ldconfig creates the necessary links and cache to the most recent shared libraries found in the directories specified on the command line, in the file /etc/ld.so.conf, and in the trusted directories (/lib and /usr/lib). The cache is used by the run-time linker, ld.so or ld-linux.so. ldconfig checks the header and file names of the libraries it encounters when determining which versions should have their links updated.

---

**QUESTION 40:**

What file should be edited to make the system aware of newly added library files?

- A. /etc/modules.conf
- B. /etc/conf.modules
- C. /etc/ld.so.conf
- D. /etc/ld.so.cache
- E. /etc/LD\_LIBRARY\_PATH.conf

Answer: C

Explanation:

ldconfig creates the necessary links and cache to the most recent shared libraries found in the directories specified on the command line, in the file /etc/ld.so.conf, and in the trusted directories (/lib and /usr/lib). The cache is used by the run-time linker, ld.so or ld-linux.so. ldconfig checks the header and file names of the libraries it encounters when determining which versions should have their links updated.

Some files:

/lib/ld.so run-time linker/loader

/etc/ld.so.conf File containing a list of colon, space, tab, newline, or comma separated directories in which to search for libraries.

/etc/ld.so.cache File containing an ordered list of libraries found in the directories specified in /etc/ld.so.conf

---

**QUESTION 41:**

The command "make config" requires bash.

- A. true
- B. false

Answer: A

Explanation The command `make config' while in /usr/src/linux starts a configure script which asks you many questions. It requires bash, so verify that bash is /bin/bash, /bin/sh, or \$BASH.

---

**QUESTION 42:**

If you need to view per-user disk space usage on a filesystem, the \_\_\_\_\_ command can provide that information if the kernel is built to support it.

Answer: du

Explanation:

du - estimate file space usage

example: du -h file/directory.

---

**QUESTION 43:**

Rate this advice: In order to use the latest kernel, it is necessary to first upgrade to the newest utilities and libraries.

- A. True
- B. False

Answer: A

Explanation: In order to use the latest kernel, it is first necessary to upgrade to the newest utilities and libraries.

---

**QUESTION 44:**

What is the name of the Kernel configuration file? Type just the filename.

Answer: .config

Explanation: config hidden file is the kernel configuration file so while you recompile the kernel, you should copy the .config file into /boot.

Example:

cp .config /boot/config-2.4.17

---

**QUESTION 45:**

GNU Make determines which pieces of a large program need to be recompiled and issues the commands to recompile them when necessary.

- A. true
- B. false

Answer: A

Explanation GNU Make is a program that determines which pieces of a large program need to be recompiled and issues the commands to recompile them, when necessary.

---

**QUESTION 46:**

What does "make bzImage" do as opposed to "make zImage"?

- A. makes a bz encrypted kernel
- B. makes a kernel with a better compression ratio
- C. makes a kernel with built in gzip application
- D. nothing

Answer: B

Explanation:

As the Kbuild documentation states:

Some computers won't work with 'make bzImage', either due to hardware problems or very old versions of lilo or loadlin. If your kernel image is small, you may use 'make zImage', 'make zdisk', or 'make zlilo' on these systems.

---

**QUESTION 47:**

You have just recompiled a new kernel and rebooted your system with the new kernel. Unfortunately you are getting "Can't locate module" error messages. Which of the following is most likely to be the source of the problem?

- A. You copied the modules to the wrong directory.
- B. You did not configure modular support into the kernel.
- C. You did not run depmod after installing the modules.
- D. You did not install the modules.

Answer: B

Explanation:

There is one more step needed for the build process, however. You have created the kernel, but now you need to create all the loadable modules if you have them configured. Be aware that typical distribution kernels tend to have almost every feature installed, plus a few others for good measure. These can typically take an hour or so to build on our Athlon XP1800. The stock kernels are somewhat leaner

by default and take, on average, 25 minutes to compile. To build the modules we run:

```
$ make modules
```

If you forget to enter make modules command, you will get that message.

Follow these steps while recompile the kernel.

Installation steps

```
cd/usr/src/bzcatlinux-2.4.17.tar.bz | tar xvf -cdlinuxmakeconfig | make menuconfig |
```

```
make xconfigmakedepmakecleanmakebzImage makemodules (if modular
```

```
kernel)makemodules_install (if modular kernel)cpSystem.map
```

```
/boot/System.map-2.4.17cparch/i386/boot/bzImage /boot/vmlinuz-2.4.17cp.config
```

```
/boot/config-2.4.17mkinitrd/boot/initrd- # Depending on
```

```
kernel configurationUpdate LILO or GRUBReboot into new kernel
```

---

### QUESTION 48:

When preparing to compile a new kernel, which of the following commands can be used to create the configuration file?

- A. make config
- B. make kernel
- C. ./configure
- D. make kernelconfig
- E. [Kernel Source Path]/Configure

Answer: A

Explanation: while recompile the kernel, we can use config or oldconfig or menuconfig or xconfig command to create the configuration file.

---

### QUESTION 49:

If your new kernel does not behave normally after a routine kernel upgrade, chances are that you forgot to \_\_\_\_\_ before compiling the new kernel.

- A. make clean
- B. make shot
- C. make clear
- D. make remove

Answer: A

Explanation: If your new kernel does really weird things after a routine kernel upgrade, chances are you forgot to make clean before compiling the new kernel. Symptoms can be anything from your system outright crashing, strange I/O problems, to crummy performance. Make sure you do a make dep, too.

**QUESTION 50:**

Upgrading a kernel involves which of the following tasks (choose all that apply):

- A. configuring the desired modules
- B. compiling the kernel and modules
- C. installing the kernel image
- D. conducting a system reboot

Answer: A,B,C,D

Explanation: Upgrading the kernel involves configuring desired modules, compiling the kernel and modules, and finally installing the kernel image. This is followed by a system reboot (with fingers crossed!) to load the new kernel. All of this is documented in the ``README" file which comes with each kernel package. Further information can be found in the ``Documentation/" subdirectory. A particularly helpful file there is ``Configure.help" which contains detailed information on the available kernel compile options and modules.

---

**QUESTION 51:**

Which of the following insures that all of the dependencies, such as the include files, are in place?

- A. make dep
- B. make clean
- C. make\_dep
- D. make\_install

Answer: A

Explanation: When the configure script ends, it also tells you to `make dep' and (possibly) `clean'. So, do the `make dep'. This insures that all of the dependencies, such the include files, are in place. It does not take long, unless your computer is fairly slow to begin with. For older versions of the kernel, when finished, you should do a `make clean'. This removes all of the object files and some other things that an old version leaves behind. In any case, do not forget this step before attempting to recompile a kernel.

---

**QUESTION 52:**

Incremental upgrades of the kernel are distributed as:

- A. patches.
- B. fixes.
- C. hotfixes.

D. service packs.

Answer: A

Explanation: Incremental upgrades of the kernel are distributed as patches. For example, if you have version 1.1.45, and you notice that there's a `patch46.gz' out there for it, it means you can upgrade to version 1.1.46 through application of the patch. You might want to make a backup of the source tree first (`make clean' and then `cd/usr/src;tar zcvf old-tree.tar.gz linux'`will make a compressed tar archive for you.).

---

### QUESTION 53:

Which of the following removes all of the object files and some other things that an old version leaves behind?

- A. make dep
- B. make clean
- C. make\_dep
- D. make\_install

Answer: B

Explanation When the configure script ends, it also tells you to `make dep' and (possibly) `clean'. So, do the `make dep'. This insures that all of the dependencies, such the include files, are in place. It does not take long, unless your computer is fairly slow to begin with. For older versions of the kernel, when finished, you should do a `make clean'. This removes all of the object files and some other things that an old version leaves behind. In any case, do not forget this step before attempting to recompile a kernel.

---

### QUESTION 54:

What command will compile the Linux kernel and leave a file in arch/i386/boot called bzImage?

- A. make bzImage
- B. make compile
- C. make Image
- D. make bzdisk

Answer: A

Explanation After depending and cleaning, you may now `make bzImage' or `make bzdisk' (this is the part that takes a long time.). `make bzImage' will compile the kernel, and leave a file in arch/i386/boot called `bzImage' (among other things). This is the new compressed kernel. `make bzdisk' does the same thing, but also places the new bzImage on a floppy disk which you hopefully put in drive ``A:". `bzdisk' is fairly handy for Certkiller new kernels;if it bombs (or just'work right ),just remove the floppy and

boot with your old kernel. It can also be a handy way to boot if you accidentally remove your kernel (or something equally as dreadful).

---

**QUESTION 55:**

What command will compile the Linux kernel and leave a file called bzImage in the floppy disk?

- A. make bzImage
- B. make compile
- C. make Image
- D. make bzdisk

Answer: D

Explanation After depending and cleaning, you may now `make bzImage' or `make bzdisk' (this is the part that takes a long time.). `make bzImage' will compile the kernel, and leave a file in arch/i386/boot called `bzImage' (among other things). This is the new compressed kernel. `make bzdisk' does the same thing, but also places the new bzImage on a floppy disk which you hopefully put in drive ``A:". `bzdisk' is fairly handy for Certkiller new kernels;if it bombs (or just'work right ),just remove the floppy and boot with your old kernel. It can also be a handy way to boot if you accidentally remove your kernel (or something equally as dreadful).

---

**QUESTION 56:**

Which of the following commands will attempt to configure the kernel from an old configuration file and run through the make config process for you?

- A. make oldconfig
- B. make newconfig
- C. make clean
- D. None of the choices

Answer: A

Explanation Make oldconfig' will attempt to configure the kernel from an old configure file;it will run through make config process for you if you havent ever compiled a kernel before or don't have an old config file, then you probably shouldn't do this, as you will most likely want to change the default configuration.

---

**QUESTION 57:**

To produce a compiled kernel with slightly better than standard compression, type the command with and any options and arguments to accomplish just the compilation.



Answer: make bzImage

---

**QUESTION 58:**

You are using X and wish to build a new kernel. What X tool would you use to build the .config file. Type in just the command, not the switches:

Answer: make xconfig

Explanation:

xconfig is a graphical frontend using qconf by Roman Zippel. It requires the qt and X libraries to build and use. The interface is intuitive and customizable. Online help is automatically shown for each kernel configuration option. It also can show dependency information for each module which can help diagnose build errors.

---

**QUESTION 59:**

Type in the command to compile a kernel image with normal compression:

Answer: make zImage

Explanation: finally ready to start the actual kernel build with make bzimage command. At the prompt type: makebzImage it will create the kernel image with normal compression.

---

**QUESTION 60:**

Which of the following is not a valid make command during a kernel recompile?

- A. make dep
- B. make clean
- C. make xconfig
- D. make modules
- E. make gzlilo

Answer: E

Explanation:

We are now (finally) ready to start the actual kernel build. At the prompt type: makebzImage

Some computers won't work with 'makebzImage', either due to hardware problems or very old versions of lilo or loadlin. If your kernel image is small, you may use 'makezImage', 'makezdisk', or 'makezlilo' on these systems

Steps to recompile the Kernel

1. cd /usr/src  
2. bzip2 linux-2.4.17.tar.bz2 | tar xvf -

```
cd linux4. make config | make menuconfig | make xconfig
5. make dep6. make clean7. make
bzImage8. make modules (if modular kernel)9. make
modules_install (if modular kernel)10. cp System.map
/boot/System.map-2.4.1711. cp arch/i386/boot/bzImage
/boot/vmlinuz-2.4.1712. cp .config /boot/config-2.4.1713.
mkinitrd /boot/initrd- # Depending on kernel
configuration14. Update LILO or GRUB15. Reboot into new
kernel
```

---

**QUESTION 61:**

You are working on a non graphical shell.  
What command would you use to configure the kernel using a menu system.  
Type the command and its argument(s).

Answer: make menuconfig

Explanation menuconfig is an ncurses-based frontend. Your system must have the ncurses-devel libraries installed in order to use this utility. As the help text at the top of the screen indicates, use the arrow keys to navigate the menu. Press Enter to select sub-menus. Press the highlighted letter on each option to jump directly to that option. To build an option directly into the kernel, press Y. To disable an option entirely, press N

---

**QUESTION 62:**

Which of the following correctly describe a Monolithic Kernel (choose all that apply):

- A. it is built into one single binary.
- B. it is loaded completely into memory at boot time.
- C. it pre-dates micro-kernel architecture by at least ten years.
- D. None of the choices

Answer: A,B,C

Explanation: There are two types of kernel, modular and monolithic. Modular kernel has different modules to support different devices, filesystem etc but monolithic is one single bundle file.

Have everything they need in that binary.

Are loaded completely into memory at boot time.

Pre-date micro-kernel architecture by at least ten years.

---

**QUESTION 63:**

Which of the following correctly describe a Micro-kernel Architecture (choose all that apply):

- A. it has an extremely small core.
- B. only its small core remains in memory at all times.
- C. its device drivers are loaded as-needed.
- D. None of the choices

Answer: A,B,C

Explanation:

Micro-kernel Architectures:

Have an extremely small core.

Only the small core remains in memory at all times.

Device drivers and other additional items are loaded as-needed.

---

**QUESTION 64:**

Rate this comment: Linux by and large is monolithic.

- A. true
- B. false

Answer: A

Explanation:

Is Linux Purely Monolithic?

Linux by and large is monolithic. However, Linux permits modules, a system whereby certain parts of the kernel may be loaded at runtime. Linux modules are reminiscent of micro-kernel architectures, but Linux really remains basically a monolithic architecture.

---

**QUESTION 65:**

On a debian system which of the following would build a boot disk

- A. mkboot /dev/floppy
- B. makeboot --device /dev/fd0 2.4.18-12
- C. mkboot --device /dev/fd0 2.4.18-12
- D. mkboot /boot/vmlinux-2.4.18-12
- E. mkbootdisk /boot/vmlinux-2.4.18-12

Answer: C

Explanation:

mkboot creates a boot floppy appropriate for the running system. The boot disk is entirely self-contained, and includes an initial ramdisk image which loads any necessary SCSI modules for the system. The created boot disk looks for the root filesystem on the device suggested by /etc/fstab. The only required argument is the

kernel version to put onto the boot floppy.

Syntax: `mkbootdisk [options] kernel version`.

By default `mkboot` creates the boot disk on first floppy device. If you want to specify the device use the `--device` option. In Debian you should specify the kernel filename which resides on `/boot`.

---

**QUESTION 66:**

On a Red Hat system, with a single floppy drive and a returned output from the `uname` command of 2.4.20-12, what exact command string will create a customized boot disk for this system? Type the full command string to accomplish this.

Answer: `mkbootdisk --device /dev/fd0 2.4.20-12`

Explanation:

`mkbootdisk` creates a boot floppy appropriate for the running system. The boot disk is entirely self-contained, and includes an initial ramdisk image which loads any necessary SCSI modules for the system. The created boot disk looks for the root filesystem on the device suggested by `/etc/fstab`. The only required argument is the kernel version to put onto the boot floppy.

Syntax: `mkbootdisk [options] kernel version`.

By default `mkbootdisk` creates the boot disk on first floppy device. If you want to specify the device use the `--device` option.

We can print the kernel version using `uname -r` command.

---

**QUESTION 67:**

On a Debian-based system, what command will create a boot disk on the first floppy if your kernel image is named "vmlinuz-2.4.18-4"? Type the full command string to accomplish this.

Answer: `mkboot vmlinuz-2.4.18-4`

Answer: `mkboot /boot/vmlinuz-2.4.18-4`

Explanation:

`mkboot` creates a boot floppy appropriate for the running system. The boot disk is entirely self-contained, and includes an initial ramdisk image which loads any necessary SCSI modules for the system. The created boot disk looks for the root filesystem on the device suggested by `/etc/fstab`. The only required argument is the kernel version to put onto the boot floppy.

Syntax: `mkbootdisk [options] kernel version`.

By default `mkboot` creates the boot disk on first floppy device. If you want to specify the device use the `--device` option. In Debian you should specify the kernel filename which resides on `/boot`.

**QUESTION 68:**

You want to create a boot floppy using a given image file on your hard disk. What utility would you use to do so?

Answer: `mkbootdisk --device /dev/fd0 `uname -r`

Explanation:

`mkbootdisk` creates a boot floppy appropriate for the running system. The boot disk is entirely self-contained, and includes an initial ramdisk image which loads any necessary SCSI modules for the system. The created boot disk looks for the root filesystem on the device suggested by `/etc/fstab`. The only required argument is the kernel version to put onto the boot floppy.

Syntax: `mkbootdisk [options] kernel version`.

By default `mkbootdisk` creates the boot disk on first floppy device. If you want to specify the device use the `--device` option.

We can print the kernel version using `uname -r` command.

---

**QUESTION 69:**

To exclude all log messages of a given logging facility, you should use a logging priority of:

Answer: none

Explanation: You can see on `/etc/syslog.conf` configuration file to store the log messages about the proper facility. The pattern is `facility.priority`,

Example

`mail.*` à it means mail related all priority.

If you want to exclude all log messages of facility use none priority.

Eg. `cron.none`

---

**QUESTION 70:**

You are having some trouble with a disk partition and you need to do maintenance on this partition but your users home directories are on it and several are logged in. Which command would disconnect the users and allow you to safely execute maintenance tasks?

- A. `telinit 1`
- B. `shutdown -r now`
- C. `killall -9 inetd`
- D. `/bin/netstop --maint`
- E. `/etc/rc.d/init.d/network stop`

Answer: E

Explanation: The network services allows users to logged in from other different host. If you stop the network service it disconnect to all users.

/etc/rc.d/init.d/ directory contains all services.

To start the service

service servicename start or restart

To stop the service

service servicename stop

---

**QUESTION 71:**

Some loadable kernel modules accept options at load time. This can be used to set interrupt or IO addresses, for example. The place to set these options is?

- A. /etc/conf.modules
- B. /etc/lilo.conf
- C. /boot/System.map
- D. /etc/sysconfig
- E. /boot/module-info

Answer: E

---

**QUESTION 72:**

Which of the following commands can be used to view kernel messages?

- A. less dmesg
- B. less /var/log/boot.log
- C. cat /proc/kernel |less
- D. cat /proc/dmesg

Answer: B

Explanation: There are two log files contains the boot and kernel related log messages. /var/log/boot.log and /var/log/dmesg.

---

**QUESTION 73:**

Which command will display messages from the kernel that were output during the normal bootup sequence?

Answer: dmesg

Explanation: dmesg is the program helps users to print out their bootup messages. Either cat /var/log/dmesg or use dmesg command

---

**QUESTION 74:**

Which bootloader can lie to Windows and make Windows believe that it's installed on the first partition even if it's not?

- A. GRUB
- B. XLoad
- C. LILO
- D. FILO

Answer: A

Explanation GRUB differs from bootloaders such as LILO in that it can lie to Windows and make Windows believe that it's installed on the first partition even if it's not. So you can keep your current Linux system where it is and install Windows on the side.

---

**QUESTION 75:**

On your system exists a file that is described as a map file that is used to update the MBR or first sector of the partition with the appropriate booting information. Type the full path and name of the file:

Answer: /etc/lilo.conf

Explanation: /etc/lilo.conf is the file used by lilo command to update the MBR or first sector of the partition with the appropriate booting information ie. root partition, kernel file etc.

---

**QUESTION 76:**

When booting your system, you believe you saw an error message go by too quickly to see. Type in the command that will show the last system bootup messages:

Answer: dmesg

Explanation: dmesg is the program helps users to print out their bootup messages. Either cat /var/log/dmesg or use dmesg command

---

**QUESTION 77:**

The dmesg command outputs information from which file, include full path?

Answer: /var/log/dmesg

Explanation: dmesg is the program helps users to print out their bootup messages. Either cat /var/log/dmesg or use dmesg command

---

**QUESTION 78:**

You have made changes to your /etc/lilo.conf file. Type in the simplest command that will reload the configuration to the MBR:

Answer: lilo

Explanation: /etc/lilo.conf is the file used by lilo command to update the MBR or first sector of the partition with the appropriate booting information ie. root partition, kernel file etc. After reconfiguring the file you should update the MBR or first sector of boot partition using lilo command.

---

**QUESTION 79:**

Where can you specify options that affect the booting of the system?

- A. /etc/lilo.conf
- B. boot= prompt
- C. linux:
- D. init 3
- E. init 5

Answer: A, B

Explanation: To effect the system booting, you can specify the options of kernel arguments on bootloader configuration file ie. lilo.conf or bootloader prompt.

---

**QUESTION 80:**

Where can the lilo command install the boot menu and information? Choose all that apply:

- A. Master Boot Record
- B. BIOS
- C. First Sector of a Partition
- D. BootBlk
- E. Boot Prom

Answer: A, C

Explanation: lilo command update the MBR or first sector of boot partition, it depends on where you installed the boot loader.

---

**QUESTION 81:**

You boot a freshly installed system loaded with all the defaults, xdm loads and



crashes, and the system halts. How can you force the system to multi-user text mode with networking from the LILO: or boot: prompt?

Answer: linux 3

Explanation: There is a configuration file named /etc/inittab contains default runlevel, run level specific scripts etc. If you want to boot the system other than default runlevel you can pass the kernel argument from boot loader.

When you get the lilo screen, press ctrl+x and type linux runlevel.

The available runlevel are

0 - halt (Do NOT set initdefault to this)

1 - Single user mode

2 - Multiuser, without NFS (The same as 3, if you do not have networking)

3 - Full multiuser mode

4 - unused

5 - X11

6 - reboot (Do NOT set initdefault to this)

Runlevel 3 is called multi user so you should boot your system on run level 3 using linux3

---

### **QUESTION 82:**

You wish to notify all users that you have to take down a service on which they rely. What command will allow you to send a message to all currently logged on users? Enter only the command, not the path.

Answer: shutdown

Explanation:

shutdown brings

the system down in a secure way. All logged-in users are notified that the system is going down, and login is blocked. It is possible to shut the system down immediately or after a specified delay. All processes are first notified that the system is going down by the signal SIGTERM. This gives programs like vi the time to save the file being edited, mail and news processing programs a chance to exit cleanly.

You can use the -k option to send the warning message to all logged in users without really shutdown down the system.

---

### **QUESTION 83:**

What is considered the normal exit value of a process?

Answer: 0

Answer: zero

Explanation: If any process exit with normal status that process return the zero.

**QUESTION 84:**

You've just rebooted your server. Users complain that the server is refusing secure connections.

Which of the following is most likely causing this problem?

- A. The clients are not resolving the server name properly.
- B. sshd is not configured to start in the default runlevel.
- C. sshd is using tcpwrappers for security.
- D. The public keys have been corrupted on the server.
- E. The users need to restart their ssh-agent.

Answer: B

Explanation: To enable the ssh connection sshd service should start. Probably on first reboot sshd service is not started. So you should start the sshd service.

To start sshd service

service sshd start

To start sshd service automatically on next reboot

chkconfig sshd on

---

**QUESTION 85:**

Your server was rebooted. Users have complained that the server refuses secured connections.

What is the mostly likely cause?

- A. The public keys have been corrupted on the server.
- B. The clients are not resolving the server name properly.
- C. Sshd is not configured to start in the default runlevel.
- D. The users need to ssh-keygen.

Answer: C

Explanation: To enable the ssh connection sshd service should start. Probably on first reboot sshd service is not started. So you should start the sshd service.

To start sshd service

service sshd start

To start sshd service automatically on next reboot

chkconfig sshd on

---

**QUESTION 86:**

What runlevels should never be declared as the default runlevel in /etc/inittab?

- A. 1
- B. 3
- C. 5
- D. 6

Answer: A, D

Explanation:

Standard Runlevel are:

0 - halt (Do NOT set initdefault to this)

1 - Single user mode

2 - Multiuser, without NFS (The same as 3, if you do not have networking)

3 - Full multiuser mode

4 - unused

5 - X11

6 - reboot (Do NOT set initdefault to this)

1 means single user mode and 6 means reboot. Which are not recommended for default runlevel.

---

**QUESTION 87:**

Type in the simplest command to display the previous and current run level:

Answer: runlevel

Explanation:

runlevel-- find the current and previous system runlevel.

See the output of runlevel

N 3 It means currently system running on runlevel 3 and not switched to any runlevel.

---

**QUESTION 88:**

You are in run level 5 and wish to change to run level 1. Type in the simplest command to do this:

Answer: init 1

Answer: init s

Answer: init S

Explanation: runlevel command displays the current and previous runlevel. To change runlevel from the command line, use

init runlevel

So, to change in runlevel init 1

---

**QUESTION 89:**

You need to change the default runlevel. Which file do you need to edit? (Write the full path including the filename)

- A. /etc/init.d
- B. /etc/init-table
- C. /etc/inittab
- D. /etc/init

Answer: C

Explanation: The file /etc/inittab contains the default run level as well as run level specific scripts.

id:3:initdefault:

If you haven't specified the run level system boots on run level 9 that is unknown run level.

---

**QUESTION 90:**

You wish to change the daemons that start at a run level 3. Type in the command that would give a text menu based application to set the daemons for this runlevel:

Answer: ntsysv --level 3

Explanation:

ntsysv is a simple interface for configuring runlevel services which are also configurable through chkconfig. By default, it configures the current runlevel. If the user would like to configure other runlevels, those levels can be specified on the command line by listing the levels after --levels, without any spaces. For example, the option --levels 016 edits runlevels 0, 1, and 6.

---

**QUESTION 91:**

Which process has a PID of 1. Type in the process name?

Answer: init

Explanation: init process has 1 process ID so init is called the parent of all process. You can check the process tree using pstree and using top command PID, memory stats, nice value etc.

---

**QUESTION 92:**

What is the name of the file and location that governs what run level is to be booted to on startup. Give full path and file name

Answer: /etc/inittab

Explanation: The file /etc/inittab contains the default run level as well as run level specific scripts.

id:3:initdefault:

If you haven't specified the run level system boots on run level 9 that is unknown run level.

---

**QUESTION 93:**

You wish to list out in text all the daemons running and stopped on your system for all run levels. Type in the simplest command

Answer: chkconfig --list

Explanation:

chkconfig provides a simple command-line tool for maintaining the /etc/rc[0-6].d directory hierarchy by relieving system administrators of the task of directly manipulating the numerous symbolic links in those directories.

To list the all services running and stopped (status) for all run levels.

chkconfig -list

To list the specific service:

chkconfig --list atd

---

**QUESTION 94:**

You need to change the default run-level for a machine. Which file should you edit?

- A. /etc/init.d
- B. /etc/init-table
- C. /etc/inittab
- D. /etc/init

Answer: C

Explanation: The file /etc/inittab contains the default run level as well as run level specific scripts.

id:RUNLEVEL:initdefault:

If you haven't specified the run level system boots on run level 9 that is unknown run level.

**QUESTION 95:**

A file exists on a server, but has no content. Users cannot submit jobs to an attached printer. Choose the correct file that must be edited to fix this problem.

- A. /etc/hosts
- B. /etc/hosts.allow
- C. /etc/host.deny
- D. /etc/hosts.lpd
- E. /var/spool/hosts.lpd

Answer: D

Explanation:

The /etc/hosts.lpd file defines which remote systems are permitted to print on the local system. Only that hosts specified in /etc/hosts.lpd can send the printing job. To solve that problem administrator should add the host name on that file.

---

**QUESTION 96:**

Which of the following are valid commands to affect your system's printing?

- A. lpq
- B. lprm
- C. lpstatus
- D. lpr
- E. lpio

Answer: A, B, D

Explanation:

lpr command is used to send the printing job.  
lpq command is used to query the printing job  
lprm command is used to remove the printing job

---

**QUESTION 97:**

Which of the following commands will flush all print jobs on all configured queues of the system?

- A. lprm -a all
- B. lprm -all
- C. lprm -a \*
- D. lpflush -all

Answer: A

Explanation:

lprm -a all command is used to flush all print job on all configured queues.

---

**QUESTION 98:**

What program do you use to suspend a printer queue?

- A. lpr
- B. lpq
- C. lpc
- D. lpd
- E. lprm

Answer: C

Explanation:

The lpc command is used to examine and control the print server operation. The lpc status command displays the administrative status of a print queue. The lpd program caches status and job information in order to improve performance. The lpc flush command will flush the cached information and cause the server to regenerate it. The lpc enable and lpc disable commands enable or disable spooling to the print queue, and the lpc stop and lpc start commands stop and start printing (or transfers) of jobs in the print queue

---

**QUESTION 99:**

Which parameters should appear in a valid /etc/printcap file to allow a local printer queue to point to another machine's print queue? Choose two.

- A. rm
- B. rp
- C. remoteip
- D. netprinter
- E. netip

Answer: A, B

Explanation:

rm à remote machine (hostname) (with rp)

rp à remote printer name (with rm)

---

**QUESTION 100:**

What command would cause a print job to be printed next regardless of its current position in the queue?

- A. lpc topq
- B. lpc -t
- C. lpq -t
- D. lpc move
- E. lpq --next

Answer: A

Explanation:

The lpc command is used to examine and control the print server operation. The lpc status command displays the administrative status of a print queue. The lpd program caches status and job information in order to improve performance. The lpc flush command will flush the cached information and cause the server to regenerate it. The lpc enable and lpc disable commands enable or disable spooling to the print queue, and the lpc stop and lpc start commands stop and start printing (or transfers) of jobs in the print queue.

The lpc topq command can be used to put a job (or jobs) at the head of the spool queue. This command is very useful when some job requires priority service. You can select the job by using the job number or the job ID.

---

**QUESTION 101:**

Which of the following commands will print the file putty on the printer hplaserj? Choose all that apply.

- A. lpr -P hplaserj -F putty
- B. lpr -Phplaserj putty
- C. lpc printer=hplaserj file=putty
- D. lpr -p hplaserj putty
- E. lpr -P hplaserj putty

Answer: B, E

Explanation: lpr command is used to send the printing job. If printer is not specified then it will send printing job to default printer. To specify the printer name should use the -P option.

Example:

lpr -Pprintername -#numberofcopies filename  
-# or -K specify the number of copies.

---

**QUESTION 102:**

Which commands will print two copies of the file to the default printer? Choose all that apply.



- A. `cat hosts | lpr -#2`
- B. `lpr -K2 hosts`
- C. `lpr -P -count 2 hosts`
- D. `cat hosts>lpr;cat hosts>lpr`
- E. `for 1 in 2 lpr hosts`

Answer: A, B

Explanation: `lpr` command is used to send the printing job. If printer is not specified then it will send printing job to default printer. To specify the printer name should use the `-P` option.

Example:

`lpr -Pprintername -#numberofcopies filename`  
`-#` or `-K` specify the number of copies.

---

### QUESTION 103:

What would the following command do?

`cat hosts | lpr -#2`

- A. Print the file `hosts` on the default printer two times.
- B. Categorize `hosts` and print the categorization as job #2.
- C. Output the file `hosts` to the line printer and assign it to the second printer queue.
- D. Print the `hosts` file to `STDOUT` and assign the current print job to printer tray number 2.

Answer: A

Explanation: `lpr` command is used to send the printing job. If printer is not specified then it will send printing job to default printer. To specify the printer name should use the `-P` option.

Example:

`lpr -Pprintername -#numberofcopies filename`  
`-#` or `-K` specify the number of copies.

---

### QUESTION 104:

You need to print 12 copies of the document `foo.txt`.

Which of the following commands would you use?

- A. `cat foo.txt | lpr -#12`
- B. `cat foo.txt > lpr -#12`
- C. `cat foo.txt | lpr -12`
- D. `cat foo.txt > lpr -12`

Answer: A

Explanation:

cat command reads the contents of foo.txt and send to print to the default printer twelve copies of same documents.

---

**QUESTION 105:**

What command will flush all jobs on all print queues on a Linux system that uses the LPD daemon? Type the command with any options and arguments.

Answer: lprm -a all

Explanation:

lprm -a all command is used to flush all print job on all configured queues.

---

**QUESTION 106:**

What file on a remote host should be configured to allow your host to print to its already functioning printers? Type the full path and name of the file.

Answer: /etc/hosts.lpd

Explanation:

The /etc/hosts.lpd file defines which remote systems are permitted to print on the local system. Only that hosts specified in /etc/hosts.lpd can send the printing job.

---

**QUESTION 107:**

The hosts.lpd file provides:

- A. A list of network printer IP addresses.
- B. A listing of printers available on the local network.
- C. A listing of computers that have printer (lpd) daemons running.
- D. A listing of hosts allowed to use printers on the local machine.
- E. A list of hosts on the local network that are not allowed access to printers attached to the local machine.

Answer: D

Explanation:

The /etc/hosts.lpd file defines which remote systems are permitted to print on the local system. Only that hosts specified in /etc/hosts.lpd can send the printing job.

See the output of /etc/hosts.lpd

Station1.example.com

Station2.example.com

Station3.example.com

Only station1, 2 and 3 can send the print job.

---

**QUESTION 108:**

What file is used to deny hosts access to a system's printers? Type the filename including full path.

Answer: /etc/hosts.lpd

Explanation:

The /etc/hosts.lpd file defines which remote systems are permitted to print on the local system.

Only that hosts specified in /etc/hosts.lpd can send the printing job.

See the output of /etc/hosts.lpd

Station1.example.com

Station2.example.com

Station3.example.com

Only station1, 2 and 3 can send the print job. Other host can't send the printing job.

---

**QUESTION 109:**

Which two commands share the same database for retrieving information?

- A. whatis
- B. whereis
- C. apropos
- D. find
- E. man

Answer: A, C

Explanation:

whatis as well as apropos command used the same database to retrieve the information. Database can update using makewhatis command

---

**QUESTION 110:**

What command will show only complete word matches for a search term?

- A. whatis
- B. apropos
- C. locate
- D. find
- E. whereis

Answer: A

Explanation: whatis command will show only the complete word matches for a search term i.e

whatis ls

See the output

ls (1) - list directory contents

whatis clear

clear (1) - clear the terminal screen

---

**QUESTION 111:**

What command will show partial word matches for a search term?

- A. apropos
- B. locate
- C. whereis
- D. whatis
- E. find

Answer: A

Explanation

apropos command show partial word matches for a search.

apropos clear

See the output

clear (1) - clear the terminal screen

clearenv (3) - clear the environment

clearerr [ferror] (3) - check and reset stream status

execstack (8) - tool to set, clear, or query executable stack flag of ELF binaries and shared libraries

feclearexcept [fenv] (3) - C99 floating point rounding and exception handling

klogctl[syslog] (2) - read and/or clear kernel message ring buffer; set

console\_loglevel

molecule (1) - draws 3D molecular structures

pam\_timestamp\_check (8) - check or clear authentication timestamps

syslog (2) - read and/or clear kernel message ring buffer; set console\_loglevel

---

**QUESTION 112:**

What command is the functional equivalent of the command "man -k searchterm"?

- A. apropos searchterm
- B. whatis searchterm
- C. locate searchterm
- D. find / -name searchterm
- E. None of the selections

Answer: A

Explanation:

apropos command show partial word matches for a search. Same as man -k searchterm.

apropos clear

See the output

clear (1) - clear the terminal screen

clearenv (3) - clear the environment

clearerr [ferror] (3) - check and reset stream status

execstack (8) - tool to set, clear, or query executable stack flag of ELF binaries and shared libraries

feclearexcept [fenv] (3) - C99 floating point rounding and exception handling

klogctl[syslog] (2) - read and/or clear kernel message ring buffer; set

console\_loglevel

molecule (1) - draws 3D molecular structures

pam\_timestamp\_check (8) - check or clear authentication timestamps

syslog (2) - read and/or clear kernel message ring buffer; set console\_loglevel

Similar like:

man -k clear

---

**QUESTION 113:**

What command is the functional equivalent of the command "man -f searchterm"?

- A. whatis searchterm
- B. apropos searchterm
- C. locate searchterm
- D. find / -name searchterm
- E. None of the selections

Answer: A

Explanation: whatis command will show only the complete word matches for a search term equivalent man -f command

whatis ls

See the output

ls (1) - list directory contents

man -f ls

ls (1) - list directory contents

---

**QUESTION 114:**

You want to find the man pages for utilities and tools related to PPP, but you don't know the name of the specific commands. How can you get a list of man pages that contain information about PPP?

- A. whatis ppp
- B. man ppp
- C. apropos ppp
- D. mandb ppp

Answer: C

Explanation:

apropos command show partial word matches for a search. Same as man -k searchterm.

See the output of apropos command

adsl-connect (8) - Shell script to manage a PPPoE link  
adsl-setup (8) - Shell script to configure Roaring Penguin PPPoE client  
adsl-start (8) - Shell script to bring up a PPPoE link  
adsl-status (8) - Shell script to report on status of PPPoE link  
adsl-stop (8) - Shell script to shut down a PPPoE link  
capiplugin (8) - Plugin for pppd (Point-to-Point Protocol daemon)  
Devel::PPPport (3pm) - Perl/Pollution/Portability  
ibod (1) - ISDN MPPP bandwidth on demand daemon  
ifcfg-ppp0 [pppoe] (5) - Configuration file used by adsl-start(8), adsl-stop(8), adsl-status(8) and adsl-connect(8)  
ippdd (8) - (ISDN) Point to Point Protocol daemon  
pppd (8) - Point-to-Point Protocol Daemon  
pppdump (8) - convert PPP record file to readable format  
pppoe (8) - user-space PPPoE client  
pppoe-relay (8) - user-space PPPoE relay agent  
pppoe-server (8) - user-space PPPoE server  
pppoe-sniff (8) - examine network for non-standard PPPoE frames  
pppstats (8) - print PPP statistics  
pppstats [ippstats] (8) - print PPP statistics  
ppp-watch (8) - daemon to make PPP interfaces act more like other interfaces  
wvdial (1) - PPP dialer with built-in intelligence

---

### **QUESTION 115:**

Type in the command that is equivalent to man -k:

Answer: apropos

Explanation:

apropos command show partial word matches for a search. Same as man -k searchterm.

---

### **QUESTION 116:**

Type in the command that is equivalent to man -f:

Answer: whatis

Explanation: whatis command will show only the complete word matches for a search term equivalent man -f command

whatis ls

See the output

ls (1) - list directory contents

man -f ls

ls (1) - list directory contents

---

**QUESTION 117:**

You need to find all references in your system documentation to the word "copy". Which of the following will best accomplish this task?

- A. man copy
- B. which copy
- C. locate copy
- D. apropos copy
- E. grep "copy" /usr/man/\*

Answer: D

Explanation:

apropos command show partial word matches for a search. Same as man -k searchterm.

apropos copy it will list all references having word copy.

bcopy (3) - copy byte sequence

bcopy [bstring] (3) - byte string operations

copysign (3) - copy sign of a number

copysignf [copysign] (3) - copy sign of a number

copysignl [copysign] (3) - copy sign of a number

cp (1) - copy files and directories

cpio (1) - copy files to and from archives

dd (1) - convert and copy a file

File::Copy (3pm) - Copy files or filehandles

ginstall [install] (1) - copy files and set attributes

intltoolize (8) - copy intltool related files to software package

mcopy (1) - copy MSDOS files to/from Unix

memccpy (3) - copy memory area

memcpy (3) - copy memory area

memmove (3) - copy memory area

mempcpy (3) - copy memory area

objcopy (1) - copy and translate object files

pax (1) - read and write file archives and copy directory hierarchies

rcp (1) - remote file copy  
scp (1) - secure copy (remote file copy program)  
strcpy (3) - copy a string returning a pointer to its end  
stpncpy (3) - copy a fixed-size string, returning a pointer to its end  
strcpy (3) - copy a string  
strncpy [strcpy] (3) - copy a string  
tiffcp (1) - copy (and possibly convert) a TIFF file  
wcpncpy (3) - copy a wide character string, returning a pointer to its end  
wcpncpy (3) - copy a fixed-size string of wide characters, returning a pointer to its end  
wcscpy (3) - copy a wide character string  
wcsncpy (3) - copy a fixed-size string of wide characters  
wmemcpy (3) - copy an array of wide-characters  
wmemmove (3) - copy an array of wide-characters  
wmemcpy [memcpy] (3) - copy memory area

---

**QUESTION 118:**

Assume that on your system, there are man pages for both the command crontab and the configuration file for crontab. What command would you use to access the man page for the crontab configuration file?

Answer: man 5 crontab

Explanation: Numerical value 5 is for configuration file. 8 for administration command. So, for crontab configuration file use man 5 crontab.

---

**QUESTION 119:**

What section of the Man pages are system administration commands in? Type the numeral of the section:

Answer: 8

Explanation: Numerical value 8 for system administration command and 5 for configuration file.

---

**QUESTION 120:**

What section of the Man pages are system files mentioned in? Type the numeral of the section.

Answer: 5

Explanation: Numerical value 5 is for configuration file. 8 for administration command. So, for crontab configuration file use man 5 crontab.



**QUESTION 121:**

The directory location /usr/share/doc contains what files?

- A. All documentation created from application source code.
- B. All documentation you wish to share with other users.
- C. Supplemental information about installed packages.
- D. Programs for reading documentation.

Answer: A

Explanation: /usr/share/doc/ directory contains the all documentation file create from the application source code.

---

**QUESTION 122:**

What is the preferred documentation tool of the FSF? Type in the name of the tool only:

Answer: info

---

**QUESTION 123:**

The main collection of Linux usenet newsgroups are found in which usenet hierarchy?

- A. sys.linux
- B. comp.linux
- C. comp.os.linux
- D. comp.sys.linux
- E. comp.opsys.linux

Answer: C

---

**QUESTION 124:**

What Internet based organization is primarily responsible for hosting and distributing the various Linux HOWTOs? (NOT the URL)

Answer: the linux documentation project

Explanation: The Linux Documentaion Project is primarily responsible for hosting and distributing the various Linux HOWTOs. The official site is [www.tldp.org](http://www.tldp.org)

---

**QUESTION 125:**

You need to access the site for HOWTO's, Guides and mini HOWTO's. Type in the full URL as it would appear in any browser, including the protocol.

Answer: <http://www.linuxdoc.org>

Answer: <http://www.tldp.org>

Explanation: The Linux Documentaion Project is primarily responsible for hosting and distributing the various Linux HOWTOs. The official site is [www.tldp.org](http://www.tldp.org). As well as Linux Documentation are found in [www.linuxdoc.org](http://www.linuxdoc.org) .

---

**QUESTION 126:**

What file is displayed BEFORE users log in for users who log in to the machine locally?

- A. /etc/issue
- B. /etc/issue.net
- C. /etc/motd
- D. /etc/local.banner

Answer: A

Explanation: The file /etc/issue is a text file which contains a message or system identification to be printed before the login prompt. And /etc/issue.net contains a message or syste, identification to be printed before the remote (telnet) login.

---

**QUESTION 127:**

Type in the name of the file including full path that holds contains a daily message viewed by users when they log in?

Answer: /etc/motd

Explanation: motd (Message Of The Day) contains the daily message and displayed after login.

---

**QUESTION 128:**

Type in the name of file and full path to the file that holds a message for remote users about possible system outages:

Answer: /etc/issue.net

Explanation: The file /etc/issue is a text file which contains a message or system identification to be printed before the login prompt. And /etc/issue.net contains a message or syste, identification to be printed before the remote (telnet) login.

**QUESTION 129:**

How can you enable onscreen (non-printing) numbers in a vi session?

- A. :set num
- B. :se nu
- C. :set -o number
- D. :set +o num
- E. None of the choices

Answer: B

Explanation: To enable line numbers on vi editor :set number or :se nu. To remove the line number on vi editor :set nonumber or :se nonu

---

**QUESTION 130:**

When starting vi with the file nohup.out, which of the following will enable onscreen numbers?

- A. vi +/set num nohup.out
- B. vi +"se nu" nohup.out
- C. vi /+"set number" nohup.out
- D. vi +":set num" nohup.out
- E. echo "set numb" | vi nohup.out

Answer: B

Explanation: If you want to set the onscreen line number on vi editor while starting the vi use the vi + " se nu" filename where + is like concatenation symbol.

---

**QUESTION 131:**

What command with options will cause the redirection symbol (>) to fail to overwrite the contents of an existing file?

- A. set -o noclobber
- B. set +o nooverwrite
- C. export OVERWRITE=no
- D. alias >='!>'
- E. None of the choices

Answer: A

---

**QUESTION 132:**

You wish to execute the ls command but it appears to be aliased. What is the easiest way of execute the original ls command without the alias?

Answer: \ls

---

**QUESTION 133:**

What does the following command accomplish?  
"export PATH=\$PATH:\$APPLICATIONS"

- A. Changes path to the applications directory.
- B. Updates the path with the value of \$APPLICATIONS.
- C. All NFS users can mount the applications directly.
- D. Updates path with the applications directory.

Answer: B

---

**QUESTION 134:**

You've just finished editing a new entry in the /etc/exports file. Which of the following will cause the changes to take effect without interrupting current connected users or rebooting the machine? Choose all that apply.

- A. exportfs -a
- B. /etc/rc.d/init.d/nfs restart
- C. service nfs restart
- D. kill -1 HUP nfs
- E. init 1

Answer: A

---

**QUESTION 135:**

After modifying /etc/exports, what must be done to make the modifications available to users? Type the command with any options and arguments.

Answer: exportfs -a

---

**QUESTION 136:**

You added /usr/local/bin to your PATH environment variable. Next you executed the command make, which calls gcc. This failed because gcc couldn't find the executable in /usr/local/bin that it needed. To fix this, you should

execute:

\_\_\_\_\_PATH allowable

Answer: export

---

**QUESTION 137:**

What two files acting together make up the login environment for a user on a default install of Linux?

- A. /etc/profile
- B. /etc/bashrc
- C. /etc/.login
- D. ~/.bash\_profile
- E. /etc/.profile

Answer: A, D

---

**QUESTION 138:**

In what file do you change default shell variables for all users?

- A. /etc/bashrc
- B. /etc/profile
- C. ~/.bash\_profile
- D. /etc/skel/.bashrc
- E. /etc/skel/.bash\_profile

Answer: B

---

**QUESTION 139:**

Which two files in a user's home directory are used to customize the bash environment?

- A. bash and .bashrc
- B. bashrc and .bash\_conf
- C. bashrc and bashprofile
- D. .bashrc and .bash\_profile
- E. bash.conf and .bash\_profile

Answer: D

---

**QUESTION 140:**

What BASH environment variable will prevent you from overwriting a file with a

">" or ">>"?

- A. set-o safe
- B. set-o noglob
- C. set-o noclobber
- D. set-o append
- E. set-o nooverwrite

Answer: C

---

**QUESTION 141:**

You issued the command: `export CFLAGS="-march-i586"`. You can remove this environment variable by using the command:  
\_\_\_\_\_CFLAGS

Answer: unset

---

**QUESTION 142:**

Which command allows you to make a shell variable visible to subshells?

- A. `export $VARIABLE`
- B. `export VARIABLE`
- C. `set $VARIABLE`
- D. `set VARIABLE`
- E. `env variable`

Answer: B

---

**QUESTION 143:**

You want to make sure all Bash users, when they login, get access to a new program in `/opt/bin` (not currently in their `PATH`). To ensure this you would put the command:`PATH=$PATH:/opt/bin;exportPATH` in what file?

Answer: `/etc/profile`

---

**QUESTION 144:**

What is the purpose of the bash built-in `export` command?

- A. To allow disks to be mounted remotely.
- B. To run a command as a process in a sub-shell.
- C. To make the command history available to sub-shells.

- D. To setup environment variables for applications.
- E. To share NFS partitions for use by other systems on the network.

Answer: D

---

**QUESTION 145:**

Where are command line aliases defined for a user? Type the full path and name of the file for the currently logged in user.

Answer: ~/.bashrc

---

**QUESTION 146:**

A user wishes to modify his Environment variable PATH, What file should you tell him to edit in his home directory. Give filename only, no path.

Answer: .bash\_profile

---

**QUESTION 147:**

Within a script you need to create a loop. Following the for variable list, the statements to be looped are found between the keywords \_\_\_\_\_ and done.

Answer: do  
syntax for the loop is do \_\_ done

---

**QUESTION 148:**

Which of the following will run a file named myscript every 23 minutes past midnight every two hours?

- A. 23 0-23/2 \* \* \* /myscript
- B. 23 \*/0-23 \* \* \* /myscript
- C. 23 @2 \* \* \* /myscript
- D. 11 2/0-23 \* \* \* /myscript

Answer: A

---

**QUESTION 149:**

Within a script you need to create a loop. Following the for variable in list, the statements to be looped are found between the keywords \_\_\_\_\_ and done.

Answer: do

---

**QUESTION 150:**

You are running a Red Hat machine. You have added a 2nd NIC to your machine and rebooted it. The card is detected in the BIOS but is not configured along with the eth0 interface upon network start. A file must be created to allow this interface to function. Type the full path and name of the file.

Answer: /etc/sysconfig/network-scripts/ifcfg-eth1

---

**QUESTION 151:**

What command will tell you which groups you belong to?

Answer: groups

---

**QUESTION 152:**

What file would you edit to make the current user's vi session options always take effect? Type the full path and filename.

Answer: ~/.exrc

---

**QUESTION 153:**

You want to change the aging information in the /etc/shadow file. What is the best utility to use to do this?

- A. vi
- B. emacs
- C. usermod
- D. modinfo
- E. chage

Answer: E

---

**QUESTION 154:**

You've been reviewing your security checklist and one of the items calls for reviewing the /etc/passwd file. You cat the file and notice that, while most users have an x in the second column, a few have a 14 character string in the second column. What action, if any, should you take?

- A. No action. The users with an x have their accounts locked.
- B. Run pwconv to convert the unix passwords to shadow passwords.



- C. Use the passwd program to give the users with the hashed passwords new passwords.
- D. Use the passwd program to give the users with the x new passwords.
- E. No action. Linux knows how to handle the situation and allow user logins.

Answer: B

---

**QUESTION 155:**

Your /etc/passwd file appears to have approximately 1/2 shadow passwords and 1/2 standard unix encrypted passwords. What utility would you most likely run again to fix this?

- A. pwconv
- B. passconvert
- C. useradd -conv
- D. pwhash
- E. passwd -fix

Answer: A

---

**QUESTION 156:**

Where are the default settings for the useradd command kept?

- A. /etc/default/useradd
- B. /etc/sysconfig/useradd.cfg
- C. /etc/.useradd
- D. /etc/defaults/useradd
- E. /etc/login.defs

Answer: A

Explanation: useradd creates a new user account using the default values from /etc/default/useradd

---

**QUESTION 157:**

What command with switches allows you to set the defaults for the useradd command? Type the command with any options and arguments.

Answer: useradd -D

---

**QUESTION 158:**

You wish to add the user king to the system including his home directory. Type in the simplest command to do this including switches:

Answer: useradd -m Bill

---

**QUESTION 159:**

You wish to remove the user stef from the system, including his home directories. Type in the simplest command to do this:

Answer: userdel -r stef

---

**QUESTION 160:**

User rick has been suspended from your company and you wish to lock his account to stop anyone using it. Type in the simplest command to do this:

Answer: usermod rick -L

Answer: passwd -l rick

---

**QUESTION 161:**

User Bill has been exiled to the marketing department who has a group name mktg. You now wish to change the primary group for the user Bill to the mktg group. Type in the simplest command to do this:

Answer: usermod -g mktg Bill

---

**QUESTION 162:**

What command will insert a single "!" symbol in from of the encrypted password in the system's shadow file? Type the command with any options and arguments:

Answer: usermod -L

Answer: passwd -l

---

**QUESTION 163:**

You just installed a new system, but before you create any new users you want to ensure they have a subdirectory bin/ in their home directory. To ensure this directory is automatically created each time you add a new user, in what subdirectory should you create the directory?

Answer: /etc/skel

---

**QUESTION 164:**

You just installed a new system, but before you create any new users you want to ensure they have a subdirectory bin/ in their home directory. To ensure this directory is automatically created each time you add a new user, in what subdirectory should you create the directory?

Answer: /etc/skel

---

**QUESTION 165:**

Where should you put the .pinerc file so that all new users get it as part of their initial creation? Type the full path of the directory.

Answer: /etc/skel

---

**QUESTION 166:**

Type in the full path and name of the global environment and startup program configuration file ;this file typicly contain the PATH, unmask and ulimit system wide settings.

Answer: /etc/profile

---

**QUESTION 167:**

You are working in a graphical environment and trying to configure PPP, but are having problems. You know that PPP uses the local2 facility for logging. To better watch what's going on, you decide to open an Xconsole session and sent all local2 messages there. How should you configure /etc/syslog.conf to show you all messages sent from PPP?

- A. local2.\* /dev/console
- B. local2.\* /dev/xconsole
- C. \*.local2 /dev/xconsole
- D. \*.local2 \*

Answer: A

---

**QUESTION 168:**

What is the full path and file name of the file that contains the configuration files for system logging? Type in full path and file name.

Answer: /etc/syslog.conf

---

**QUESTION 169:**

Type in the file and full path to the configuration file for the Sytem logging daemons:

Answer: /etc/syslog.conf

---

**QUESTION 170:**

You want to display a list of all last logged in users. The file /var/log/wtmp exists.

Which command would you use?

Answer: last

---

**QUESTION 171:**

The last command functionality needs what log file to be present to operate properly? Type the full path and name of the file:

Answer: /var/log/wtmp

---

**QUESTION 172:**

You are working an evening shift and want to look at which jobs are pending for the at command.

What command would you use?

Answer: atq

---

**QUESTION 173:**

Which daemon or service can be configured as a non-root user?

- A. cron
- B. ntp
- C. lpr
- D. nmbd
- E. slocate

Answer: A

---

**QUESTION 174:**

Which two files are responsible for allowing users to execute cron jobs?

- A. /etc/cron.allow
- B. /var/spool/cron.allow
- C. /var/spool/cron.allow
- D. /etc/cron.deny

Answer: A, D

---

**QUESTION 175:**

The correct crontab entry in the minutes column to create a command in cron that runs every two minutes would be \_\_\_\_\_.

Answer: \*/2

---

**QUESTION 176:**

To increase system security, it is often desirable to run daemons for system services with non-root user ids. Which one of the following services can be run as a non-root user?

- A. inetd
- B. named
- C. rlogind
- D. crond
- E. telnetd

Answer: D

---

**QUESTION 177:**

How many cron fields are there for specifying the time to execute a cron job?

- A. 1
- B. 3
- C. 4
- D. 5
- E. 6

Answer: D

---

**QUESTION 178:**

Which crontab entry could be used to set the system time at regular intervals?

- A. 10 \* \* \* date \$d\$t\$24
- B. 10 \* \* \* settime \$d\$t\$24

- C. 10 \* \* \* date<ntpl.digex.net
- D. 10 \* \* \* /usr/sbin/runcron date <ntpl.digex.net
- E. 10 \* \* \* /usr/sbin/ntpdate ntpl.digex.net> /dev/null2>&1

Answer: E

---

**QUESTION 179:**

The correct crontab entry to execute the script chklog once per hour between 3 p.m. and 5 p.m. on Monday and Thursday each week is:

- A. 0 3,4,5 \* \* 2,5 chklog
- B. 0 3,4,5 \* \* 1,4 chklog
- C. 0 15,16,17 \* \* 1,4 chklog
- D. 0 15,16,17 1,4 \* \* chklog
- E. \* 15,16,17 \* \* 1,4 chklog

Answer: C

---

**QUESTION 180:**

What file or utility is used by normal users to configure the cron daemon? Type in the name of the tool:

Answer: crontab

---

**QUESTION 181:**

You wish to list the contents of your crontab. Type in the simplest command to do this:

Answer: crontab -l

---

**QUESTION 182:**

You wish to make changes to your crontab entry. Type in the simplest command to make this change:

Answer: crontab -e

---

**QUESTION 183:**

You have a job scheduled to run at 16:30 using the AT scheduler.

When you type atq it displays the following information

```
[root@localhost root]# atq
```

```
2 2003-03-14 16:00 a root
```

[root@localhost root]#

Type in the command to remove only this job:

Answer: atrm 2

---

**QUESTION 184:**

What command will show pending jobs that will be executed once on a given date and time? Type just the command to accomplish this:

Answer: atq

---

**QUESTION 185:**

Which backup method resets the archive bit? Select all that apply.

- A. Full
- B. Incremental
- C. Differential
- D. Copy
- E. DirTree

Answer: A, B

---

**QUESTION 186:**

What command with options will show you the contents with associated pathnames of an archive file named archive.tar.gz? The file must not be unpacked with the command string. Type the full command string to accomplish this.

Answer: tar -tzvf archive.tar.gz

Answer: tar tzvf archive.tar.gz

Answer: tar zxvf archive.tar.gz

Answer: ar -zxvf archive.tar.gz

---

**QUESTION 187:**

What command will most effectively send a list of certain files from a directory to the tar or cpio command? Type just the command name.

Answer: ls

---

**QUESTION 188:**

You wish to archive and compress all the files in your home directory starting with the word projects into a file called myprojects.tar.gz. You are currently in your home directory. Type in the command that would do this:

Answer: tar -czf myprojects.tar.gz projects\*

Answer: tar czf myprojects.tar.gz projects\*

Answer: tar -zcf myprojects.tar.gz projects\*

Answer: tar zcf myprojects.tar.gz projects\*

---

**QUESTION 189:**

You have a tarball called myprojects.tar.gz and you wish to view the permissions and ownership of its contents without unpacking it. Type in the simplest command to do this:

Answer: tar -tzvf myprojects.tar.gz

Answer: tar tvzf myprojects.tar.gz

Answer: tar zvtf myprojects.tar.gz

Answer: tar ztvf myprojects.tar.gz

---

**QUESTION 190:**

You have just downloaded an application called rdesktop from the internet. The file downloaded is named rdesktop.tar.gz. Type in the simplest command to decompress and untar this file into the current directory:

Answer: tar -zxf rdesktop.tar.gz

Answer: tar zxf rdesktop.tar.gz

---

**QUESTION 191:**

Which file system should never be backed up and therefore never have to be restored?

- A. ufs
- B. usr
- C. tmp



- D. home
- E. swap

Answer: E

---

**QUESTION 192:**

What one filesystem should you never restore (and therefore not backup): \_\_\_\_\_.

Answer: swap

---

**QUESTION 193:**

On a default Linux system, what file system type does the dump command act upon?

- A. Ext2
- B. UFS
- C. JFS
- D. XFS
- E. ReiserFS

Answer: A

---

**QUESTION 194:**

What is a filesystem type the dump utility can work with?

Answer: ext2

---

**QUESTION 195:**

Which directory tree is ordinarily the least likely to be backup or restore?

- A. /tmp
- B. /var
- C. /proc
- D. /usr
- E. /usr

Answer: C

---

**QUESTION 196:**

Which backup method will require the minimum tapes to restore?

- A. Full
- B. Incremental
- C. Differential
- D. Copy
- E. DirTree

Answer: A

---

**QUESTION 197:**

You use the public NTP server time.nist.gov to make sure your system clock is accurate before using it to adjust your hardware clock. Complete the following command to accomplish this:

\_\_\_\_\_ time.nist.gov

Answer: ntpdate

Explanation: With the command ntpdate time.nist.gov you can set your clock.

---

**QUESTION 198:**

To slave your NTP daemon to an external source, you need to modify the \_\_\_\_\_ variable in your /etc/ntp.conf file.

Answer: server

---

**QUESTION 199:**

NTP is used to synchronize the system \_\_\_\_ with a central system resource.

Answer: clock

---

**QUESTION 200:**

What protocol will allow you to keep accurate time on your hosts?

- A. ntp
- B. nntp
- C. ncftp
- D. inn
- E. ntime

Answer: A

---

**QUESTION 201:**

A user complains that his laptop shows the wrong time when it is not connected to the network.

What command must the superuser run to adjust the laptop's clock without entering in BIOS?

Answer: date

---

**QUESTION 202:**

To learn more about the management or ownership of a website, what's the best utility to use?

- A. tracert
- B. traceroute
- C. whois
- D. ping
- E. telnet

Answer: C

---

**QUESTION 203:**

Which protocol is used for the majority of the ping command's actions?

- A. ICMP
- B. UDP
- C. TCP
- D. NDP
- E. NCP

Answer: A

---

**QUESTION 204:**

Which protocol is used by ping?

- A. TCP
- B. UDP
- C. SMB
- D. ICMP
- E. OSPF

Answer: D

---

**QUESTION 205:**

If you suspect that a gateway machine on your network has failed but you are unsure which machine, which command will help locate the problem?

- A. ps
- B. netstat
- C. nslookup
- D. ifconfig
- E. traceroute

Answer: E

---

**QUESTION 206:**

In the following output, which is representative of the host performing gateway functions?

```
Destination Gateway Genmask Flags Metric Ref Use Iface
10.3.3.0 192.168.1.1 255.255.255.255 UGH 0 0 0 eth0
192.168.1.0 * 255.255.255.0 U 0 0 0 eth0
192.168.77.0 * 255.255.255.0 U 0 0 0 vmnet1
127.0.0.0 * 255.0.0.0 U 0 0 0 lo
default 192.168.1.1 0.0.0.0 UG 0 0 0 eth0
```

- A. The default gateway is on 192.168.77.0 network
- B. The current host is the also the default gateway
- C. Its eth0 interface is incorrectly configured
- D. The 192.168.1.1 is the default gateway

Answer: B

---

**QUESTION 207:**

You build and configured a bastion host to act as a router between two internal networks. Both eth0 and eth1 can see hosts on their respective networks, but the hosts on each network cannot see any hosts on the other network. After verifying that the hosts have the correct gateway route, you decide the bastion host does not have IP forwarding turned on. Which command would you type to check this cat the file /proc/sys/net/ipv4/ \_\_\_\_\_ to ensure it has a 1?

Answer: ip\_forward

---

**QUESTION 208:**

Identify the statement that would create a default route using a gateway of 192.168.1.1

- A. netstat-add default gw

- B. route default 192.168.1.1
- C. ip route default 192.168.1.1
- D. route add default gw 192.168.1.1
- E. ifconfig default gw 192.168.1.1 eth0

Answer: D

---

**QUESTION 209:**

What command will most effectively track a network path problem?

Answer: traceroute

---

**QUESTION 210:**

What program will determine basic connectivity to a remote host? Type just the name of the program.

Answer: ping

---

**QUESTION 211:**

Which of the following options will speed up traceroute for distant network queries?

- A. -n
- B. -p
- C. -0
- D. -t
- E. -q

Answer: A

---

**QUESTION 212:**

Which ports are used for FTP data and control? Choose Two.

- A. 20
- B. 23
- C. 22
- D. 21
- E. 25

Answer: A, D

---

**QUESTION 213:**

**117-102**

Which of the following IP address ranges are considered private, according to RFC 1918? Choose all that apply.

- A. 10.0.0.0 - 10.255.255.255
- B. 192.168.0.0 - 192.168.255.255
- C. 172.16.0.0 - 172.31.255.255
- D. 191.168.16.0 - 192.168.31.255
- E. 172.16.0.0 - 172.16.255.255

Answer: A, B, C

---

**QUESTION 214:**

What is the binary conversion of the IP address 192.168.1.10?

- A. 11000000.10101000.00000001.00001010
- B. 01101010.11000100.10101000.00000001
- C. 00000001.00001010.11000000.10101000
- D. 10101000.00000001.00001010.11000000
- E. None of the choices

Answer: A

---

**QUESTION 215:**

Your server logfile shows repeated connections to TCP port 143, what service is being accessed?

- A. smtp
- B. imap
- C. pop3
- D. pop2
- E. nmbd

Answer: B

---

**QUESTION 216:**

Which of the following IP networks does RFC1918 reserve for use on private intranets? (Choose two)

- A. 10.0.0.0
- B. 224.0.0.0
- C. 199.14.0.0
- D. 172.152.0.0
- E. 192.168.0.0

Answer: A, E

---

**QUESTION 217:**

The \_\_\_\_\_ is used by the local host to determine which hosts are on the local subnet, and which hosts are on remote networks.

- A. DNS
- B. ARP
- C. gateway
- D. netmask
- E. routing protocol

Answer: D

---

**QUESTION 218:**

Which two of the following Class B IPv4 networks are reserved by IANA for private address assignment and private routing? (Choose two)

- A. 128.0.0.0
- B. 169.16.0.0
- C. 169.254.0.0
- D. 172.16.0.0
- E. 172.20.0.0

Answer: C, D

Explanation The address 192.168.x.x and 172.16.x.x are well known internal use addresses. 172.16 is a Class B IP number. 169.254 is an class B internal use IP number This IP range is also uses by Microsoft, then known as APIPA addresses when no DHCP address can be provided.

---

**QUESTION 219:**

With a Class C address, and a subnet mask of 255.255.255.0, how many host addresses are assignable?

Answer: 254

---

**QUESTION 220:**

Your IP address is 1.2.3.3. Which command would add a default gateway using the network 1.2.3.4?

Answer: route add default gw 1.2.3.4

**QUESTION 221:**

Your IP address is 170.35.13.28 and your network mask is 255.255.255.192. What host IP address is NOT a part of your local subnet?

- A. 170.35.13.33
- B. 170.35.13.88
- C. 170.35.13.62
- D. 170.35.13.55

Type in just the letter of the answer:

Answer: B

---

**QUESTION 222:**

There is any entry like the following in the file /etc/ftpusers:

```
#root
```

Will root be allowed to connect via ftp to this host?

Answer: no

---

**QUESTION 223:**

To find the port used by a particular known service, you would look in what file?  
Type the full path and name of the file.

Answer: /etc/services

---

**QUESTION 224:**

What system file contains definitions of well known ports, their associated services and protocols?

- A. /etc/services
- B. /etc/sysconfig/network-scripts
- C. /etc/services.conf
- D. /etc/inet/hosts
- E. None of the choices

Answer: A

---

**QUESTION 225:**

Select from the list below the daemons that are present on a standard Linux server to support routing. Choose all that apply.



- A. gated
- B. ripd
- C. routed
- D. ospfd
- E. bgpd

Answer: B, C, D, E

---

**QUESTION 226:**

What is a well-known service that binds port 25 and is it required on all hosts?

- A. SNMP and it should be turned off if not needed.
- B. SMTP and it is a required service.
- C. SMTP and it is only required on MX hosts.
- D. SLPD and it is required if you run LDAP services.
- E. SSHD and it is required for secure logins.

Answer: C

---

**QUESTION 227:**

What command will display the active connections and Unix domain sockets for a running Linux machine with networking configured? Type just the command to accomplish this.

Answer: netstat

---

**QUESTION 228:**

Suppose that the command netstat-a hangs for a long time without producing output.

You might suspect:

- A. A problem with NFS
- B. A problem with DNS.
- C. A problem with NIS.
- D. A problem with routing.
- E. That the netstat daemon has crashed.

Answer: E

---

**QUESTION 229:**

You need to view the hardware address and IP address information for all of your

configured and active interfaces. Type the simplest command string that will accomplish this.

Answer: ifconfig

---

**QUESTION 230:**

To immediately stop a DDOS attack from 10.1.1.128, what can you do? Type the command with the necessary options and arguments.

Answer: route add 10.1.1.128 lo

---

**QUESTION 231:**

Your machine has two working NIC's with proper addresses. You want to split your network into two new subnets. What single command will accomplish this?

- A. ifconfig
- B. route
- C. default
- D. netstat
- E. None of the choices

Answer: A

---

**QUESTION 232:**

Your server has two fully functional NIC's with correct IP configuration. The server is not forwarding traffic between the NIC's. Which command string will set the cards to forward properly?

- A. setparam 1 > /proc/sys/net/ipv4/ip\_autoconfig
- B. echo 1 > /proc/sys/net/ipv4/ip\_forward
- C. set \$=1 /proc/sys/net/ipv4/route
- D. cat \$1 > /proc/sys/net/ethernet
- E. vi +/1 /proc/sys/net/unix/max\_dgram\_qlen

Answer: B

---

**QUESTION 233:**

You have a Linux system routing 3 networks through 3 separate NICs and are having trouble with your IP forwarding. What file would you check to ensure that IP forwarding is enabled?

- A. /etc/defaultrouter

- B. /proc/net/tcp
- C. /proc/sys/net/ipv4/ip\_forward
- D. /var/log/messages

Answer: C

---

**QUESTION 234:**

Your machine's IP address used to function, but it's only got the localhost "lo" entry now. What three client-mode commands could you possibly use to get a new DHCP address?

- A. dhcpd
- B. ipconfig
- C. dhclient
- D. pump
- E. dhcpd

Answer: C, D, E

---

**QUESTION 235:**

In what file can you configure your name server resolution queries to use the localhost first? Type the full path and name of the file.

Answer: /etc/nsswitch.conf

---

**QUESTION 236:**

Which local system networking file binds a hostname to an IP address? Type the full path and name of the file.

Answer: /etc/hosts

---

**QUESTION 237:**

To change your Ethernet interface eth0 to the IP address 10.4.4.100 with a default class C subnet mask, type the full command string to accomplish this.

Answer: ifconfig eth0 10.4.4.100 netmask 255.255.255.0

Explanation: ifconfig eth0 10.4.4.100 netmask 255.255.255.0

Alternative correct answer: ifconfig eth0 10.4.4.100 netmask 255.255.255.0 up  
With the option up - you set these interface active.

---

**QUESTION 238:**

What is the command most often used for configuring network interfaces?

Answer: ifconfig

---

**QUESTION 239:**

You wish to restart the network daemon on a Redhat Server. Type in the command and any arguments that to accomplish this without using any absolute pathnames:

Answer: service network restart

---

**QUESTION 240:**

You wish to change you network settings permanently using a text/graphical tool. Type in the command to start this tool:

Answer: netconfig

---

**QUESTION 241:**

Type in the name of the file including path of the static host name to IP address configuration file:

Answer: /etc/hosts

---

**QUESTION 242:**

What command could you use to confirm function of a ppp connection before establishing it?

- A. minicom
- B. hyperterminal
- C. setserial
- D. modemset
- E. None of the choices

Answer: A

---

**QUESTION 243:**

Select all of the protocols that are supported by the Linux implementation of ppp.

- A. chap
- B. mschap

- C. pap
- D. spap
- E. eap

Answer: A, B, C

---

**QUESTION 244:**

What ppp option governs how long an interrupted connection will remain down before it attempts to reconnect?

- A. holddown
- B. holdoff
- C. inactive
- D. delay
- E. wait

Answer: B

---

**QUESTION 245:**

When using the PPP daemon make a connection, what option is set to configure it to use hardware flow control?

- A. crtscts
- B. rsync
- C. nsync
- D. connect

Answer: A

---

**QUESTION 246:**

When using pppd which authentication protocol is the most secure?

- A. clear text
- B. PAP
- C. CHAP
- D. LAP

Answer: C

Explanation: PAP sends all information as clear text.  
CHAP sends all information as encrypted text.

---

**QUESTION 247:**

According to the PPP HOWTO which piece of software could help you test a modem?

- A. chat
- B. dhcpd
- C. minicom
- D. Hylafax
- E. netconfig

Answer: C

---

**QUESTION 248:**

When using /etc/ppp/peers/\* files, which of the following is true:

- A. The /etc/ppp/options should be empty.
- B. Any user can run pppd from the command line.
- C. The dial-on-demand option cannot be used.
- D. You must use chap authentication.

Answer: A

---

**QUESTION 249:**

What command would help you test if your ppp connection was functional? Type just the command name.

Answer: minicom

---

**QUESTION 250:**

What is the exact, case-sensitive option that governs flow-control for the ppp daemon?

Answer: crtscts

---

**QUESTION 251:**

To disable telnet service on a system, which action should you take?

- A. Put NONE in /etc/telnet.allow
- B. Remove the appropriate telnet init script.
- C. Put a line 'ALL:ALL' in /etc/hosts.deny

- D. Comment the telnet entry in /etc/inittab
- E. Comment the telnet entry in /etc/inetd.conf

Answer: E

---

**QUESTION 252:**

On a default install of a Linux server, regardless of the distribution version, what are the easiest methods to disable telnet, but not uninstall or remove the service? Choose two.

- A. Comment telnet out of the /etc/inetd.conf file
- B. Delete the /etc/rc.d/init.d/telnet file
- C. Rename all SXXtelnet links in the /etc/rc or /etc/rc.d directories
- D. Run "chmod 554 /etc/xinetd.d/telnet"
- E. Nothing, it's not enabled by default

Answer: A, E

---

**QUESTION 253:**

Your DNS server needs to be configured for speed and security. Choose the best answer.

- A. Disable inetd, run named standalone, only allow tcp on ports 25 and 53
- B. Disable inetd, run named standalone, only allow tcp on ports 25 and 110
- C. Enable inetd, run named as an inetd service, only allow tcp on ports 25 and 53
- D. Disable inetd, run named as a standalone on the apache server.

Answer: A

---

**QUESTION 254:**

Which file is responsible for configuring the inet daemon?

- A. /etc/inetd.conf
- B. /etc/xinetd.conf
- C. /etc/tcpd.conf
- D. /etc/inet.conf

Answer: A

---

**QUESTION 255:**

You decide to use xinetd instead of inetd. What must be done in order to properly configure xinetd?

- A. You must create a new configuration file for xinetd.
- B. You must add xinetd to /etc/services.
- C. You must add xinetd support to your tcpwrappers configuration files.
- D. Nothing, xinetd uses the same configuration files as inetd.

Answer: D

Explanation: Both use the same configuration file.

---

**QUESTION 256:**

You have replaced inetd with xinetd.

What must be done after installing to ensure that your machine will work correctly?

- A. You must add a symbolic link from inetd.conf to xinetd.conf.
- B. You don't have to do anything because they are compatible.
- C. You must create a new configuration file for xinetd.
- D. You must run xinetd-configure first.

Answer: B

Explanation: Both use the same configuration file.

---

**QUESTION 257:**

Converting from the inetd to xinetd services requires populating entries in what file, including the full path and name?

Answer: /etc/xinetd.conf

---

**QUESTION 258:**

What is the command to check the syntax of your /etc/inetd.conf?

Answer: tcpdchk

---

**QUESTION 259:**

What command can you use to determine the users connected to a Linux ftp server?  
Type just the command to accomplish this.

Answer: ftpwho

---

**QUESTION 260:**



What is the file that contains the settings and conversion parameters for the ftp server? Type in the name of the file only:

Answer: ftpconversions

---

**QUESTION 261:**

What configuration file is used for settings and conversion parameters for the ftp daemon?

- A. ftpusers
- B. ftpconvert
- C. ftpconversions
- D. in.ftpd
- E. ftpdefaults

Answer: C

---

**QUESTION 262:**

What file is used to define a list of users that may NOT login to via the ftp daemon? Type just the name of the file.

Answer: ftpusers

---

**QUESTION 263:**

You want a secure and fast DNS server that must also be quickly accessible remotely. You should:

- A. Reject all udp packets.
- B. Reject all icmp packets.
- C. Reject all icmp untrusted-host packets.
- D. Disable inetd, run ssh and named as standalone daemons.
- E. Use tcpwrappers to only allow connections to ports 22 and 53.

Answer: D, E

---

**QUESTION 264:**

What file must you create in your home directory in order to enable mail forwarding?

- A. .redirect
- B. .forward

- C. .plan
- D. .mail
- E. None of the choices

Answer: B

---

**QUESTION 265:**

What command with options and arguments will display the mail servers for lpi.org?

Answer: dig lpi.org mx

Answer: dig lpi.org MX

---

**QUESTION 266:**

In what file are the mail aliases kept for Sendmail? (Provide the complete path)

- A. /etc/aliases
- B. /etc/mailaliases
- C. /etc/sendmail.aliases
- D. /etc/sendmail/aliases
- E. /var/spool/mail/aliases

Answer: A

---

**QUESTION 267:**

What directory by default contains the delivered mail for each user?

- A. ~/mail/
- B. /usr/mail/
- C. /var/mail/
- D. /var/mail/spool/
- E. /var/spool/mail/

Answer: E

---

**QUESTION 268:**

To avoid spammers using your mail server to relay their messages, you need to \_\_\_\_\_.

- A. Disable the relay control in /etc/aliases
- B. Set up a ruleset for this in /etc/sendmail.cf

- C. Set up relay control in your DNS's MX record.
- D. Recompile sendmail with the -NORELAY flag.

Answer: B

---

**QUESTION 269:**

You are running an email server configured with the default settings. In which directory will you find the delivered mail for the user foo?

- A. /var/spool/mail
- B. /home/foo/mail
- C. /var/mail/spool
- D. /var/users/mail

Answer: A

Reference: man mail (<http://man.linuxquestions.org>)

---

**QUESTION 270:**

What commands with any options, will cause sendmail to recognize newly added aliases while it's running?

Answer: sendmail -bi

Answer: newaliases

---

**QUESTION 271:**

In what directory does undelivered remote mail get stored in? Type the full path and name of the file.

Answer: /var/spool/mqueue

---

**QUESTION 272:**

Undelivered mail for local system users is stored in what directory? Type the full path of the directory.

Answer: /var/spool/mail/username

---

**QUESTION 273:**

You are performing an onsite security inspection of a division of your company. On an Apache server, you want to determine what files are needed and which can be removed from the /etc/httpd folder.

Which of the following are possibly valid Apache configuration files? Choose all that apply:

- A. httpd.conf
- B. apached.conf
- C. srm.conf
- D. access.conf
- E. in.http.conf

Answer: A, C, D

---

**QUESTION 274:**

Which of the following files typically are used to configure Apache? (Choose two)

- A. srm.conf
- B. www.conf
- C. http.boot
- D. httpd.conf
- E. apache.conf

Answer: A, D

---

**QUESTION 275:**

You have a standard Apache web server installation and want to make it respond to requests on port 8088. To do this, what configuration file do you need to change?

- A. None. This is the default port.
- B. /etc/httpd/apache.conf
- C. /etc/httpd/ports.conf
- D. /etc/httpd/httpd.conf
- E. /etc/httpd/access.conf

Answer: D

---

**QUESTION 276:**

What file is used in recent apache distributions to configure the service? Type the full path and name of the file.

Answer: /etc/apache/httpd.conf

Answer: /etc/apache2/httpd.conf

Explanation: On new systems (since Suse Linux V9.0) are these the correct files.

On older systems (before Suse Linux V9.0) the apache config file is found in /etc/httpd.conf

---

**QUESTION 277:**

What configuration file and directive will alter your apache server IP and or port that it listens to?

- A. Port
- B. IPAddress
- C. Listen
- D. MinSpareServers

Answer: C

---

**QUESTION 278:**

What Apache directive must you change when using inetd to control your Apache server?

- A. ServerType
- B. ServerInetd
- C. InetServer
- D. StartServer
- E. ServerMethod

Answer: A

---

**QUESTION 279:**

Which Apache Directive specifies the location of the HTTP documents?

- A. RootDocument
- B. ServerRoot
- C. DocumentRoot
- D. RootServer
- E. DocPath

Answer: C

---

**QUESTION 280:**

What command can be used to shut down the Apache server gracefully?

- A. apacheshut
- B. apachectl

- C. apachestop
- D. apachestart

Answer: B

Explanation: But the option is missing.

---

**QUESTION 281:**

What is the recommended setting for StartServers in a medium sized Apache installation?

- A. 5
- B. 10
- C. 15
- D. 20

Answer: B

---

**QUESTION 282:**

How many spare server processes are required by Apache for the typical, low-to-moderate volume website?

- A. 1
- B. 50
- C. 10
- D. 200

Answer: C

---

**QUESTION 283:**

When an Apache server is configured to provide 10 spare server processes, which kind of website would it typically serve?

- A. A low-to-moderate volume website
- B. A website for no more than 10 users
- C. A high volume web site
- D. A one-user volume website

Answer: A

---

**QUESTION 284:**

In order to allow a Win95 host to resolve the name of and map network drives to

your Linux server, what services should be running? Choose Two.

- A. nmbd
- B. smbd
- C. named
- D. routed
- E. winsd

Answer: A, B

---

**QUESTION 285:**

What is the simplest method to connect a Win98 host to a Linux Server?

- A. Velcro
- B. Samba
- C. NFS
- D. DNS
- E. WINS

Answer: B

---

**QUESTION 286:**

What is true about the root user and NFS?

- A. NFS shares don't allow root access by default
- B. NFS automatically masks out share permissions
- C. NFS automatically maps all root UID's to the local user "rootsquash"
- D. NFS ignores all users with a UID of 0 and a GID of 0
- E. NFS pays no attention whatsoever to security

Answer: A

---

**QUESTION 287:**

What configuration files on a Linux Server can be configured to share file systems with clients? Choose Two.

- A. /etc/nmbd
- B. /etc/smbd
- C. /etc/smb/samba.conf
- D. /etc/smb.conf
- E. /etc/samba/smb.conf

Answer: D, E

**QUESTION 288:**

What command is used to monitor connections to the SMB server?

- A. smbclient
- B. testparm
- C. smbstatus
- D. smbstat

Answer: C

---

**QUESTION 289:**

What is the command to map a Windows user ID to a Linux user ID for use with the Samba Server?

- A. smbuser
- B. smbpasswd
- C. smbadduser
- D. useraddsmb
- E. useradd

Answer: C

---

**QUESTION 290:**

What file do you configure to make changes to your smb and nmbd daemons?  
Type the full path and name of the file.

Answer: /etc/smb.conf

Answer: /etc/samba/smb.conf

---

**QUESTION 291:**

Type in the command to monitor connections to Samba:

Answer: smbstatus

---

**QUESTION 292:**

You wish to restart both Samba daemons. Type in the command and any arguments that to accomplish this without using any absolute pathnames:

Answer: service smb restart



**QUESTION 293:**

Type in the name of the samba daemon that is responsible for WINS names resolution

Answer: nmbd

---

**QUESTION 294:**

Which option in the /etc/fstab file causes all users IDs to be mapped to the system's anonymous ID when mounting a NFS mounted file system?

- A. no-root-squash
- B. all-squash
- C. all-id-squash
- D. root-squash

Answer: B

---

**QUESTION 295:**

Which fstab option governs that all root ID are mapped to anonymous ID when mounting a NFS mounted file system?

- A. no-root-squash
- B. root-squash
- C. all-squash
- D. squash-root

Answer: B

---

**QUESTION 296:**

This is a line from the file /etc/export:  
/product Certkiller (rw)  
What does it mean?

- A. Only user Certkiller may access the filesystem /product when it is NFS mounted.
- B. This computer will mount the filesystem /product on Certkiller via NFS.
- C. The filesystem /product is exported for NFS mount to computer Certkiller .
- D. All NFS access to /product will use suid Certkiller .

Answer: C

---

**QUESTION 297:**

You are not using the WINS service on your network, but need to provide NETBIOS resolution to your hosts. What is the name of the daemon that provides these services on a Linux server?

- A. nmbd
- B. dns
- C. winsd
- D. lmhosts
- E. smbd

Answer: A

---

**QUESTION 298:**

These lines are taken from `/etc/smb.conf`:

```
workgroup = group1
```

```
guest account = nobody
```

What else is needed for this to work?

- A. nobody must be a valid group on the server.
- B. nobody must be a user name listed in `/etc/passwd`.
- C. group1 must be a valid group on the server.
- D. workgroup must be a valid group on the server.

Answer: B

---

**QUESTION 299:**

Type the command to check the syntax and contents of the `smb.conf` file:

Answer: `testparm`

---

**QUESTION 300:**

Type in the name of the samba daemon that is responsible for printer and file sharing:

Answer: `smbd`

---

**QUESTION 301:**

Which daemon allows Linux to share its file systems and printers with unmodified Windows clients?

- A. X Window
- B. nmbd
- C. smbd
- D. WINS
- E. NFS

Answer: C

---

**QUESTION 302:**

Shares can be configured for export via the NFS service by editing what file?

- A. /etc/exports
- B. /etc/export
- C. /etc/exportfs
- D. /etc/nfs/exports

Answer: A

---

**QUESTION 303:**

What file contains a list of directories for an NFS daemon to server to other systems?  
(Provide the complete answer)

Answer: /etc/exports

---

**QUESTION 304:**

You are running a machine which exports a list of directories using NFS.  
Provide the complete path to the file which contains this list.

Answer: /etc/exports

---

**QUESTION 305:**

Which two services resolve Netbios names to IP addresses?

- A. WINS
- B. NetbiosSVC
- C. smbd
- D. nmbd
- E. DNS

Answer: A, D

---

**QUESTION 306:**

Which of the following brings up a user friendly GUI interface (choose all that apply):

- A. make xconfig
- B. make menuconfig
- C. make config
- D. make compile

Answer: A, B

Explanation:

The "make xconfig" or "make menuconfig" brings up a user friendly GUI interface. And "make config" brings up command-line console mode interface. You can load the configuration file from /usr/src/linux/.config (dot config file. Note the dot before config).

---

**QUESTION 307:**

What file contains a list of shared directories on a Linux/Unix system? Type the full path and name of the file.

Answer: /etc/exports

---

**QUESTION 308:**

Type in the name and full path to the network configuration file that defines the search order for name resolution:

Answer: /etc/nsswitch.conf

---

**QUESTION 309:**

What file with full path is used to set the location to query for hostname resolution outside of the local system?

Answer: /etc/resolv.conf

---

**QUESTION 310:**

What files affect the name resolution functionality of a Linux host? Choose Three.

- A. /etc/resolv.conf
- B. /etc/hosts
- C. /etc/default/names
- D. /etc/nsswitch.conf

E. /etc/inet/hosts

Answer: A, B, D

---

**QUESTION 311:**

Which port is used for DNS

- A. 110
- B. 21
- C. 23
- D. 52
- E. 53

Answer: E

---

**QUESTION 312:**

What are reverse DNS entries used for?

- A. Reverse DNS enable diagnostic commands like traceroute to work.
- B. Reverse DNS gives you information about the owner of the DNS entry.
- C. Reverse DNS provides the hostname for a particular numeric IP address.
- D. Reverse DNS provides geographical information about the DNS net location.

Answer: C

---

**QUESTION 313:**

What file determines the DNS servers used by your computer?

- A. /etc/hosts
- B. /etc/named.conf
- C. /etc/nsswitch.conf
- D. /etc/resolv.conf

Answer: D

---

**QUESTION 314:**

This is the file /etc/named.boot from the computer named tellus with IP address 128.66.12.10.

```
directory /etc
secondary Certkiller .com 128.66.12. Certkiller .com.hosts
secondary 66.128.IN-ADDR.ARPA 128.66.12.5 128.66.rev
primary 0.0.127.IN-ADDR.ARPA named.local
```

cache named.ca

From this file, you know that:

- A. tellus is the primary DNS server for domain Certkiller .com.
- B. There is a secondary DNS server for domain Certkiller .com at the IP address 128.66.12.5.
- C. tellus is a secondary DNS server for domain Certkiller .com and it downloads the domain data from the server at IP address 128.66.12.5.
- D. The server at IP address 128.66.12.5 is allowed to download domain and reverse lookup data from tellus.

Answer: B

---

**QUESTION 315:**

When you use DNS to find a hostname using a particular IP address, which kind of DNS entry is involved?

- A. Reverse DNS entries
- B. IP DNS entries
- C. Address DNS entries
- D. Network DNS entries

Answer: A

---

**QUESTION 316:**

In the /etc/resolv.conf file are entries that describe where DNS queries can resolve names to IP addresses. Given a DNS server with an IP address of 192.168.33.254, type the exact entry that should appear in this file:

Answer: nameserver 192.168.33.254

---

**QUESTION 317:**

Type in the name and full path to the config file that contains the IP address of DNS servers for hostname resolution:

Answer: /etc/resolv.conf

---

**QUESTION 318:**

What file on a system contains a list of hosts that can't connect to the machine's services?

- A. /etc/hosts/denial

- B. /etc/hosts.deny
- C. /etc/host.notallow
- D. /etc/inetd.conf
- E. /etc/hosts.not

Answer: B

---

**QUESTION 319:**

Which configuration option can you use to prevent the root user from logging directly onto a machine using ssh?

- A. NoRootLogon
- B. PermitRootLogin No
- C. NoRootLogon Yes
- D. RootLogin = No
- E. ProhibitRootLogon No

Answer: B

---

**QUESTION 320:**

Which of the following services would you be least likely to configure to be governed over by the Internet Super Server?

- A. ftp
- B. telnet
- C. ssh
- D. finger
- E. bind

Answer: C

---

**QUESTION 321:**

The files /etc/hosts.allow, /etc/hosts.deny and /etc/nologin all exist on your computer, and the sshd daemon is running. What will happen when users try to connect with ssh?

- A. Only connections from computers specified in /etc/hosts.allow will be allowed to log in.
- B. Only root will be allowed to log in.
- C. All users not specified in /etc/hosts.deny will be allowed to log in.
- D. No user will be allowed to log in.

Answer: B

**QUESTION 322:**

The file /etc/ssh\_host\_key should be:

- A. world-readable
- B. readable to group sys
- C. readable to root only
- D. readable by all SSH users

Answer: D

---

**QUESTION 323:**

What command will verify the syntax of a hosts.allow and hosts.deny file combination?

- A. tcpdchk
- B. verify --tcp
- C. ipswitch
- D. tcpdump
- E. tcpdmatch

Answer: A

---

**QUESTION 324:**

Which one of the following lines would you expect to see on the file /etc/hosts.allow?

- A. in.tftpd: LOCAL
- B. tftp dgram udp wait root /usr/sbin/tcpd in tdtcp
- C. tftp 69/udp
- D. udp 17 UDP

Answer: A

---

**QUESTION 325:**

What files affect the functioning of TCP Wrappers? Choose Two.

- A. /etc/hosts.deny
- B. /etc/nsswitch.conf
- C. /etc/security/authconfig
- D. /etc/default/clients
- E. /etc/hosts.allow



Answer: A, E

---

**QUESTION 326:**

What command with options will find all files on your system that have either the SUID or GUID bits set? Type the exact command with options to accomplish this.

Answer: find / -perm +6000

---

**QUESTION 327:**

Select the files that are associated with TCP Wrappers. Choose all that apply.

- A. /etc/hosts
- B. /etc/hosts.allow
- C. /etc/hosts.deny
- D. /etc/allow.hosts
- E. /etc/allow.deny

Answer: B, C

---

**QUESTION 328:**

Your user matt has forgotten his passwd and you wish to reset it. Type in the command line to change his password (you are currently logged in as root):

Answer: passwd matt

---

**QUESTION 329:**

What command will set a regular users password, so it forces them to change it every 60 days? Choose all that apply.

- A. passwd -x 60 user1
- B. chage -M 60 user1
- C. passwd +x 60 user1
- D. useradd -e 60 user1
- E. usermod -f 60 user1

Answer: A, B

---

**QUESTION 330:**

What command will convert your shadow password file to md5 compatible passwords?

- A. passconv
- B. pwconv
- C. mdconv
- D. mdsum
- E. passwd --convert

Answer: B

---

**QUESTION 331:**

You've decided to convert from standard shadow passwords to MD5 passwords. You make the appropriate changes to the /etc/pam.d/ files. What should you do next?

- A. Nothing, the passwords will be changed as users login and out.
- B. Nothing, users will be automatically prompted to change their passwords at the next login.
- C. You need to manually change all the passwords using the passwd program.
- D. Delete and recreate all the users.
- E. Change the /etc/pam.d files back because shadow passwords and MD5 passwords are incompatible.

Answer: C

---

**QUESTION 332:**

On a system using shadowed passwords, the correct permissions for /etc/passwd are \_\_\_\_ - and the correct permission for /etc/shadow are \_\_\_\_\_.

- A. -rw-r-----, -r-----
- B. -rw-r--r--, -r--r--r--
- C. -rw-r--r--, -r-----
- D. -rw-r--rw-, -r-----r--
- E. -rw-----, -r-----

Answer: C

---

**QUESTION 333:**

Which of the following files has the correct permissions?

- A. -rw--w--w- 1 root root 369 Dec 22 22:38 /etc/shadow
- B. -rwxrw-rw- 1 root root 369 Dec 22 22:38 /etc/shadow
- C. -rw-r--r-- 1 root root 369 Dec 22 22:38 /etc/shadow
- D. -rw----- 1 root root 369 Dec 22 22:38 /ect/shadow

Answer: D

---

**QUESTION 334:**

Your investigation of a system turns up a file that contains the line below:

```
find /home -iname .rhosts -exec rm -f {} \;
```

What is the purpose of this script?

- A. To enhance system security
- B. To remove all program error dumps
- C. To remove all temporary files in the user's home directories
- D. To reset the configuration for the rsh and rexec utilities

Answer: A

---

**QUESTION 335:**

What will the following line in the /etc/exports file do?

```
/data snowblower(rw) badhost (ro)
```

- A. Give snowblower rw access to the data share, deny badhost any access, and allow ro for all other hosts
- B. Give snowblower rw access to the data share, give badhost ro access to share and deny all others
- C. Give snowblower no access to the data share, give badhost rw access and set ro access for all others
- D. Cause a syntax error

Answer: B

---

**QUESTION 336:**

What command would be used to check the gpgp signature on a downloaded source file? Type just the name of the command:

Answer: gpg

---

**QUESTION 337:**

To prevent users from seeing who is logged in with the who command, you must remove the world readable but from the file /var/run \_\_\_\_\_.

Answer: utmp

---

**QUESTION 338:**

Of the ways listed, which is the best way to temporarily suspend a user's ability to interactively login?

- A. Changing the user's UID.
- B. Changing the user's password.
- C. Changing the user's shell to /bin/false.
- D. Removing the user's entry in /etc/passwd.
- E. Placing the command logout in the user's profile.

Answer: C

---

**QUESTION 339:**

You have a user whose account you want to disable but not remove. What should you do?

- A. Edit /etc/gshadow and just remove his name.
- B. Edit /etc/passwd and change all numbers to 0.
- C. Edit /etc/shadow file and remove the last field.
- D. Edit /etc/passwd and insert an \* after the first :.
- E. Edit /etc/group file and put a # sign in front of his name.

Answer: D

---

**QUESTION 340:**

Which of the following regarding user account configuration is true (choose all that apply):

- A. username is case-sensitive
- B. password is case-sensitive
- C. username is case-insensitive
- D. password is case-insensitive

Answer: A, B

Explanation Please note that everything should be entered in lowercase, except for the full name of the user which can be entered in a "pleasing format" (eg. Joe Smith) and the password. Case is sensitive, so inform your user(s) they must use identical case when entering their username and password.

---

**QUESTION 341:**

To create a user account, keep in mind that the username is at most \_\_\_\_ characters long.

- A. 6
- B. 8
- C. 12
- D. 18

Answer: B

Explanation Please note that everything should be entered in lowercase, except for the full name of the user which can be entered in a "pleasing format" (eg. Joe Smith) and the password. Case is sensitive, so inform your user(s) they must use identical case when entering their username and password.

---

**QUESTION 342:**

Rate this comment: The "root" account has no security restrictions imposed upon it.

- A. True
- B. False

Answer: A

Explanation When using this account it is crucial to be as careful as possible. The "root" account has no security restrictions imposed upon it. This means it is easy to perform administrative duties without hassle. However, the system assumes you know what you are doing, and will do exactly what you request -- no questions asked. Therefore it is easy, with a mistyped command, to wipe out crucial system files.

---

**QUESTION 343:**

Type the full path and name of the file whose global read bit you would change to deny normal users the ability to get useful information from the who and w commands.

Answer: /var/run/utmp

---

**QUESTION 344:**

What command was typed in to produce the output shown below? The entries shown are the full output of the command, less the actual command. Type the command and the options to reproduce similar output:

```
USER PID %CPU %MEM VSZ RSS TTY STAT START TIME COMMAND
root 394 0.0 0.0 1200 444 tty1 S 01:05 0:00 /sbin/getty 38400 tty1
root 396 0.0 0.0 1200 444 tty3 S 01:05 0:00 /sbin/getty 38400 tty3
root 397 0.0 0.0 1200 444 tty4 S 01:05 0:00 /sbin/getty 38400 tty4
root 398 0.0 0.0 1200 444 tty5 S 01:05 0:00 /sbin/getty 38400 tty5
root 399 0.0 0.0 1200 444 tty6 S 01:05 0:00 /sbin/getty 38400 tty6
```

```
root 423 0.0 0.0 1200 444 tty2 S 01:06 0:00 /sbin/getty 38400 tty2
root 426 0.2 0.3 2880 1964 pts/0 S 01:07 0:00 -bash
```

Answer: ps -aux

---

**QUESTION 345:**

User Bob Swanson (bswanson) has left Certkiller .com. His data has already been removed from his directory. How do you remove his account and directory?

- A. rm -rf /home/bswanson
- B. deluser /home/bswanson
- C. uderdel -r bswanson

Answer: C

---

**QUESTION 346:**

The \_\_\_\_\_ command is used to modify or set the password expiration for a user.

Answer: passwd

Answer: usermod

---

**QUESTION 347:**

You have an automated backup via tar to your tape drive /dev/st0 that runs each night. You've decided to manually check last night's tape. The command to list the contents of the tape is \_\_\_\_\_.

Answer: cpio -t < /dev/st0

---

**QUESTION 348:**

A cronjob must run at least every 11 minutes. The job may take up to 7 minutes to complete, and there mustn't be two jobs at the same time. Which crontab line solves the problem?

- A. \*/8 \* \* \* \* myjob
- B. \*/9 \* \* \* \* myjob
- C. \*/10 \* \* \* \* myjob
- D. \*/11 \* \* \* \* myjob
- E. \*/12 \* \* \* \* myjob

Answer: C

---

**QUESTION 349:**

You need to sync your hardware clock, which is on GMT, with your system clock, which you just updated with NTP. To do this, complete the following command:

\_\_\_\_\_ -u --systohc

Answer: hwclock

---

**QUESTION 350:**

The system utility that automatically creates new log files and moves old ones is called what?

- A. newlog
- B. mvlog
- C. rotatelog
- D. logrotate

Answer: D

Reference: man logrotate

---

**QUESTION 351:**

You discover a pending job for the at command. Which of the following do you have to use to remove it?

- A. atrm
- B. atq -r
- C. at -r
- D. rmat

Answer: A

---

**QUESTION 352:**

You've downloaded an image file of a boot floppy disk to your hard drive. What is the best utility to create a boot floppy from the disk image? (Specify a single command without options.)

Answer: dd

Not rewrite.exe: rawrite.exe is used on DOS/Windows based systems

---

**QUESTION 353:**

The \_\_\_\_\_ command is used to print out the current date and time on the system.

Answer: date

---

**QUESTION 354:**

To see the current time set by a NTP clock, you use the command

- A. ntpd -clock
- B. ndtime
- C. hwdate
- D. ntpdate

Answer: A

---

**QUESTION 355:**

Which TWO daemons may be used to support various routing protocols under Linux?

- A. gated
- B. ripd
- C. ospfadm
- D. bgpd
- E. routed

Answer: A, E

---

**QUESTION 356:**

The following output shows an excerpt from a standard network configuration file:

```
time 37/tcp timserver
time 37/udp timeserver
rlp 39/udp resource # resource location
name 42/udp nameserver
whois 43/tcp nickname # usually to sri-nic
domain 53/tcp
domain 53/udp
mtp 57/tcp # deprecated
bootps 67/udp # bootp server
bootpc 68/udp # bootp client
tftp 69/udp
```

Which file could this be from?

- A. /etc/hosts
- B. /etc/inetd.conf
- C. /etc/named.conf



- D. /etc/services
- E. /etc/syslog.conf

Answer: D

---

**QUESTION 357:**

The \_\_\_\_\_ file contains the system default options for the PPP daemon.

Answer: /etc/ppp/options

---

**QUESTION 358:**

What is the highest numbered TCP/IP port?

- A. 2047
- B. 32767
- C. 65535
- D. 131071

Answer: C

There are 65535 possible ports officially recognized.

Note: TCP uses the notion of port numbers to identify sending and receiving applications. Each side of a TCP connection has an associated 16-bit unsigned port number assigned to the sending or receiving application. Ports are categorized into three basic categories: well known, registered and dynamic/private. The well known ports are assigned by the Internet Assigned Numbers Authority (IANA) and are typically used by system-level or root processes. Well known applications running as servers and passively listening for connections typically use these ports. Some examples include: FTP (21), TELNET (23), SMTP (25) and HTTP (80). Registered ports are typically used by end user applications as ephemeral source ports when contacting servers, but they can also identify named services that have been registered by a third party. Dynamic/private ports can also be used by end user applications, but are less commonly so. Dynamic/private ports do not contain any meaning outside of any particular TCP connection.

---

**QUESTION 359:**

Which of the following is used to establish a PPP link to another computer?

- A. pppconn
- B. linkppp
- C. pppd
- D. pppconf

Answer: C

Explanation:

On Linux, PPP functionality is split into two parts: a kernel component that handles the low-level protocols (HDLC, IPCP, IPXCP, etc.) and the user space pppd daemon that handles the various higher-level protocols, such as PAP and CHAP. The current release of the PPP software for Linux contains the PPP daemon pppd and a program named chat that automates the dialing of the remote system.

---

**QUESTION 360:**

Which of the following protocols uses two different network ports?

- A. NTP
- B. FTP
- C. Rsh
- D. HTTP
- E. Telnet

Answer: B

Explanation:

FTP (File Transfer Protocol) is used to transfer the file. Which service uses the two different ports 20 and 21.

---

**QUESTION 361:**

You can run the \_\_\_\_\_ command to see active network and UNIX domain socket connection.

Answer: netstat

Explanation:

netstat is the multi-purpose command use to print network connections, routing tables, interface statistics, masquerade connections and multicast memberships.  
netstat -sTU : prints all TCP and UDP ports used and being used.

---

**QUESTION 362:**

While checking your security, you discover that you can connect to one of the machines on the network via port 23. What should you do to the network service on this machine?

- A. Deactivate it, you don't need a SMTP server there.
- B. Deactivate it, you should not use TELNET.
- C. Leave active, SSH is safe.

D. Deactivate it, you don't need a FTP server there.

Answer: B

Explanation:

According to question, it is checking the secure and non-secure service.

Telnet also called non-secured service runs on port 23.

To deactivate telnet service:

```
chckconfig telnet off
```

```
service xinetd restart
```

---

**QUESTION 363:**

Which of the following represents a class C netmask?

A. 255.0.0.0

B. 255.255.0.0

C. 255.255.255.0

D. 255.255.255.255

Answer: C

Explanation:

By default Class C has 24 bits of network address so netmask is

255.255.255.0

11111111.11111111.11111111.0

Class A: 8 bits Network Address

11111111.0.0.0 : 255.0.0.0

Class B: 16 Bits Network Address

11111111.11111111.0.0 : 255.255.0.0

---

**QUESTION 364:**

Which of the following PPP authentication protocols never sends a password in the clear?

A. PAM

B. PAP

C. PGP

D. CHAP

Answer: D

Explanation:

CHAP

Challenge Handshake Authentication Protocol. A security feature supported on

lines using PPP encapsulation that prevents unauthorized access. CHAP does not itself prevent unauthorized access; it merely identifies the remote end. The router or access server then determines whether that user is allowed access.

---

**QUESTION 365:**

You are working on a server that has multiple ethernet network interfaces, and you wish to find out the IP address assigned to the eth1 interface. Which of the following commands will print the necessary information?

- A. `ipconfig /dev/eth1`
- B. `ethconfig -d eth1`
- C. `ifconfig eth1`
- D. `prntconf eth1`

Answer: C

Explanation:

`ifconfig` is used to configure the kernel-resident network interfaces. It is used at boot time to set up interfaces as necessary.

`ifconfig` : display the layer 2 and layer 3 information of all enabled interfaces.

`ifconfig eth1` : displays the layer 2 and layer 3 information of eth1 interfaces.

---

**QUESTION 366:**

Consider the following command and an abbreviated version of its output:

```
$ netstat -nr
```

```
Kernel IP routing table
```

```
Destination Gateway Genmask Flags Iface
192.168.165.0 0.0.0.0 255.255.255.0 U eth0
127.0.0.0 0.0.0.0 255.0.0.0 U lo0
0.0.0.0 192.168.165.1 0.0.0.0 UG eth0
```

What is the default gateway for the network?

- A. 192.168.165.1
- B. 255.0.0.0
- C. 255.255.255.0
- D. 0.0.0.0
- E. 192.168.165.0

Answer: A

Explanation:

when you use the `netstat -nr` or `route -n` command it prints the routing table configured in your linux system.

0.0.0.0 192.168.165.1 UG 0 0 eth0 Where 192.168.165.1 is the default gateway for all network and packets goes through eth0 interface.

---

**QUESTION 367:**

Your ISP has given you an IP block for your use. The block is 192.168.112.64/26. If your network administrator uses the first usable IP for the router he's installed on your network, how many usable IPs do you have left?

Answer: 61

Explanation:

32 bits of IP address minus 26 bits is 6 bits.

minus 1 for address of network

minus 1 for address of broadcast

minus 1 for address of router

$2^6 - 3 = 61$

---

**QUESTION 368:**

You want to add an alias for an existing DNS record. What type of DNS record could you use?

A. CNAME

B. MX

C. SOA

D. NS

Answer: A

Explanation:

CNAME helps to aliases to existing host in DNS record.

Example:

mail IN A 192.168.100.1

pop IN CNAME mail

---

**QUESTION 369:**

What is the name of the primary configuration file for Apache?

A. srm.cfg

B. httpd.cfg

C. access.cfg

D. apache.conf

E. httpd.conf

Answer: E

Explanation:

/etc/httpd/conf/httpd.conf is the primary configuration file for apache web server and /etc/httpd/conf.d/ssl.conf is the configuration file for HTTPS.

---

**QUESTION 370:**

When you run the command newaliases, it will:

- A. ask for input on stdin to create new mail aliases.
- B. restart sendmail.
- C. remove the aliases currently configured.
- D. rebuild the aliases database for the file /etc/aliases.

Answer: D

Explanation:

/etc/aliases file is used to send the mail to different address then coming address.

Syntax: boob: peter : means mail of boob will get by peter. After modifying the file /etc/aliases you should re-build the database using newaliases command

---

**QUESTION 371:**

You have generated a DSA authentication key on host linux1. In order to log into host linux2 with the new key, what do you need to do?

- A. Copy the new authentication key into /etc/ssh/sshd\_config on linux2.
- B. Copy the new authentication key into \$HOME/.ssh/authorized\_keys on linux2.
- C. Copy the new authentication key into \$HOME/.ssh/id\_dsa on linux2.
- D. Copy the new authentication key into \$HOME/.ssh/id\_dsa on linux1.
- E. Log into linux2 using the command ssh --key.

Answer: D

---

**QUESTION 372:**

The user bob complains that he cannot access his email. In witch directory would you look to see if there is any deliverable email for him?

- A. /var/spool/mail
- B. /var/mail/mqueue
- C. /var/spool/mqueue
- D. /home/bob/.mail

Answer: A

Explanation:

/var/spool/mail/ directory contains the user's spooling mail. If user unable to check the mail you should check the permission and owner of mail spooling file under /var/spool/mail

---

**QUESTION 373:**

Which file contains a list of services and hosts that will be denied by a TCP Wrapper such as tcpd? (type full path)

Answer: /etc/hosts.deny

Explanation:

The /etc/hosts.allow and /etc/hosts.deny each have two or more colon-separated fields. The first field specifies the comma separated list of executable name. The second field contains a comma-separated list of client specifications, using IP address or host name or network name.

httpd: 192.168.1.0/24 à specified the network

vsftpd: .example.com à specified the domain.

We can allow or deny to client by name or ip.

Example of /etc/hosts.deny

vsftpd:ALL à Deny the ftp service to all client

vsftpd: ALL EXCEPT .example.com

à Deny the ftp service to all client except example.com domain members.

---

**QUESTION 374:**

The normal way of starting your Apache server would be the command:

- A. apachectl start
- B. http -start
- C. inetd apache
- D. apachestart -n
- E. apache start

Answer: A

Explanation:

apachectl is the Apache HTTP server control Interface. You can start, stop, restart the httpd daemon as well as can check the configuration.

To start the httpd daemon: apachectl start

---

**QUESTION 375:**

You decide to use xinetd instead of inetd. Now, you need to transfer information from /etc/inetd.conf to another file. What file?

Answer: /etc/xinetd.conf

Explanation:

xinetd.conf is the configuration file that determines the services provided by xinetd.

/etc/inetd.conf is replaced by /etc/xinetd.conf.

---

**QUESTION 376:**

The \_\_\_\_\_ command is the Apache HTTP server control interface.

Answer: apachectl

Explanation:

apachectl is the Apache HTTP server control Interface. You can start, stop, restart the httpd daemon as well as can check the configuration.

To check the configuration of httpd.conf use the : apachectl configtest

To restart the httpd daemon: apachectl restart

---

**QUESTION 377:**

If you want to print a listing of your computer's mail queues, what command would you use?

- A. sendmail -l
- B. lpq
- C. mailq
- D. mlq

Answer: C

Explanation:

mailq command prints a summary of mail messages queued for future delivery.

Syntax: mailq [options]

mailq -Ac : show the mail submission queue specified in /etc/mail/submit.cf instead of the MTA queue specified in /etc/mail/sendmail.cf

---

**QUESTION 378:**

You want to make the directory /local available via NFS. Everything works fine, but on the client machine, the super user is unable to read any files on the NFS-mounted file system. Why?



- A. The NFS protocol does not allow this.
- B. The super user has different user IDs on the client and the server machine.
- C. The client, when mounting the NFS filesystem, must specify the option trusted.
- D. The exports entry on the server machine does not include the option no\_root\_squash.

Answer: D

Explanation:

Entries in /etc/exports are exported with root\_squashing turned on. This ensures that requests from the root user on a client machine are denied root access to root-owned files on a server machine. Such requests are mapped instead to a uid such as 65534. This behaviour can be defeated with the no\_root\_squash option but this not recommended.

---

**QUESTION 379:**

The \_\_\_\_\_ command prints a list of email that is currently in the queue waiting for delivery.

Answer: mailq

Explanation:

mailq command prints a summary of mail messages queued for future delivery.

Syntax: mailq [options]

mailq -Ac : show the mail submission queue specified in /etc/mail/submit.cf instead of the MTA queue specified in /etc/mail/sendmail.cf

---

**QUESTION 380:**

In your DNS configuration, MX records are used to point to the \_\_\_\_\_ server(s) for your domain. (Please specify a single word answer.)

Answer: email

Answer: e-mail

Explanation:

MX record in DNS configuration specifies the Mail Exchanger or mail server for the domain.

Example:

abc.com. IN MX 5 mail.abc.com.

abc.com. IN MX 10 mail1.abc.com.

Where mail.abc.com is the primary mail Exchanger for abc.com domain and mail1.abc.com is the secondary mail exchanger for the abc.com domain.

**QUESTION 381:**

The file `/etc/ssh_known_hosts` typically contains hosts keys for \_\_\_\_\_.

- A. all hosts that have logged into this server via ssh
- B. all hosts that users have logged into from this server via ssh
- C. clients allowed to connect to this host via ssh
- D. machines the system administrator trusts users to connect to using ssh

Answer: D

---

**QUESTION 382:**

Enter the command/servicename that dynamically assigns ports for Remote Procedure Calls (RPC) services like NIS, NFS and similar.

Answer: portmap

Explanation:

portmap is a server that converts RPC program numbers into DARPA protocol port numbers. It must be running in order to make RPC calls. When an RPC server is started, it will tell portmap what port number it is listening to, and what RPC program numbers it is prepared to serve.

---

**QUESTION 383:**

When a change is made to the file controlling what files are made available by NFS, what command must be run to make the changes effective? (Provide only the command name, not the path or any command switches.)

Answer: exportfs

Explanation:

exportfs command is used to maintain the current table of exported file systems of NFS.

To List all shared data:

exportfs -v

To Refresh `/etc/exports`

exportfs -r

---

**QUESTION 384:**

You have a file `/etc/resolv.conf`, but the computer does not use the configured DNS servers to look up host names. What is most likely the problem?

- A. The hosts entry in your `/etc/nsswitch.conf` does not list dns.
- B. You do not have a `/etc/named.conf` file.
- C. The localhost hostname is not properly configured in `/etc/hosts`.
- D. The named daemon is not running on your computer.

Answer: A

Explanation:

`/etc/nsswitch.conf` file is called system databases and name service switch configuration file.

By default it checks in `/etc/hosts` if not found then only send the request to DNS server if

Hosts: files dns : is written in `/etc/nsswitch.conf` file.

---

### **QUESTION 385:**

What configuration file contains the list of directories shared via NFS?

- A. `/etc/share`
- B. `/etc/exports`
- C. `/etc/dfs/dfstab`
- D. `/etc/fstab`

Answer: B

Explanation:

`/etc/exports` file is used to share the data via NFS.

Syntax: directory client(permission)

Example:

`/public *(rw,sync)`

`/data *.example.com(ro,sync)`

---

### **QUESTION 386:**

What kind of DNS entries are used to get the hostname of a given IP address?  
Please enter exactly ONE word.

Answer: reverse

Explanation:

i. Forward Lookup : resolves the hostname into IP address

ii. Reverse Lookup : Resolves the IP address into Hostname

---

### **QUESTION 387:**

What command do you use to generate an OpenSSH host key?

- A. sshd
- B. ssh-agent
- C. ssh-keygen
- D. ssh-add

Answer: C

Explanation:

ssh-keygen command generates, manage and converts authentication keys for ssh. Ssh-keygen can create RSA keys for user by SSH protocol veriosn and RSA or DSA for use by SSH version 2.  
By default it will create the public key file and private key file in ~/.ssh/  
Filename\_dsa is the private key file  
filename\_dsa.pub is the public key file

---

**QUESTION 388:**

The \_\_\_\_\_ command is used to modify a user's account information.

Answer: usermod

Explanation:

usermod command is used to modify the user accounts.  
Example: usermod -L username :Locks the account  
usermod -U username : Unlocks the account  
usermod -e "date" userame : sets the Accoun expire date

---

**QUESTION 389:**

Your FTP server has been under attack, and the ISP of the attacker has been less than helpful in mitigating the attacks. So you decide that all connections from that ISP (badguy.example.org) to your FTP server will be denied and sent a message. Which line in your /etc/hosts.allow will have the desired effect?

- A. in.ftpd : .badguy.example.org : twist 450 denied due to numerous attacks from this domain
- B. ftp : badguy.example.org : DENIED message 450 denied due to numerous attacks from this domain
- C. in.ftpd : badguy.example.org : spawn echo 450 denied due to numerous attacks from this domain
- D. ftp : .badguy.example.org : DENIED due to numerous attacks from this domain

Answer: A

Explanation:

The /etc/hosts.allow and /etc/hosts.deny each have two or more colon-separated fields. The first field specifies the comma separated list of executable name. The second field contains a comma-separated list of client specifications, using IP address or host name or network name.

httpd: 192.168.1.0/24 à specified the network

vsftpd: .example.com à specified the domain.

To deny the service access you should write in /etc/hosts.deny

---

**QUESTION 390:**

You want to temporarily prevent users from logging in. Please complete the following command:

touch /etc/\_\_\_\_\_

Answer: nologin

Explanation:

pam\_nologin.so module prevents non-root user login into the system, this module checks whether /etc/nologin file is created or not, if created deny to all non-root user to login locally.

---

**QUESTION 391:**

Which of the following services is NOT usually protected via TCP wrappers?

- A. ftp
- B. finger
- C. auth
- D. http

Answer: D

Explanation:

TCP wrappers control only the services linked with the libwrap.so

module i.e

sendmail

slapd

sshd

stunnel

xinetd

gdm

portmap

---

**QUESTION 392:**

Your gateway to the internet is using iptables and NAT to allow your private

network to access the Internet. You've verified that the gateway is not set up to block packets, but you need to verify that it is properly masquerading them. Which of the following commands would you use to look at your NAT tables?

- A. iptables -L -n
- B. iptables -t nat -L
- C. iptables -t mangle -L
- D. iptables -t filter -L

Answer: B

Explanation:

iptables is used to set up, maintain and inspect the tables of IP packet filter rules in the Linux kernel. Several different tables may be defined, each table contains a number of built-in chains and may also contain user-defined chains. Each chain is a list of rules which can match a set of packets. Each rule specifies what to do with a packet that matches this is called target.

You can list the policy and rules of iptables using the iptables -L command

Output will get in this syntax:

```
target prot opt source destination
```

Default table is filter: when you use the iptables -L it will display the chains and rules of filter table.

To list rules of masquerading:

```
# iptables -t nat -L
```

---

### QUESTION 393:

For security reasons, the system administrator is setting up a log server. What file does the system administrator have to edit in order to have each machine send log entries to the new log server?

Answer: /etc/syslog.conf

Explanation:

/etc/syslog.conf is the log configuration file, where administrator can set where to send what type of logs !! . By default logs send to local system's under /var/log/different log files.

\*.user @logserver.example.com : Logs generated by user will send to logserver.example.com host.

---

### QUESTION 394:

Which command prints or adjusts the current limits on resources available to the shell and to processes started by it, such as the maximum size of a core file or the maximum number of processes running? (Please include the command only, without arguments or path.)

Answer: ulimit

Explanation:

ulimit provides control over the resources available to the shell and to processes started by it, on systems that allow such control. The -H and -S options specify that the hard or soft limit is set for the given resources.

---

**QUESTION 395:**

The \_\_\_\_\_ command is used to setup, view, and modify packet filtering, network and port translation, and other packet mangling rules within 2.4 and later kernel.

Answer: iptables

Explanation:

iptables is used to set up, maintain and inspect the tables of IP packet filter rules in the linux kernel. Several different tables may be defined. Each table contains a number of built-in chains and may also contain user-defined chains.

---

**QUESTION 396:**

Which of the following commands can typically be used to configure a kernel?

- A. ./config
- B. ./configure
- C. make config
- D. make configure

Answer: C

Explanation:

config is the least user-friendly option as it merely presents a series of questions that must be answered sequentially. Alas, if an error is made you must begin the process from the top. Pressing Enter will accept the default entry, which is in upper case.

---

**QUESTION 397:**

You just configured a kernel and now you want to check the dependencies. Please enter the command and its argument(s).

Answer: make dep

Explanation:

To check the dependencies of files you should use the make dep command.

### Steps to re-compile the kernel

We have so far extracted and patched the Linux sources. During our preparation we also determined what hardware is installed in the system so that we will know which modules will need compilation. Before we proceed to actually configuring the kernel there are a couple minor but important details to complete.

Inside the Linux source directory is the default Makefile. This file is used by the makeutility to compile the Linux sources. The first few lines of the Makefile contains some versioning information:

```
VERSION = 2
PATCHLEVEL = 4
SUBLEVEL = 22
EXTRAVERSION = -1
```

Note that there is an additional EXTRAVERSION field. To prevent overwriting any existing kernel modules on the system we will change this EXTRAVERSION to something unique.

When the final installation steps are run, kernel module files will then get written to /lib/modules/\$VERSION.\$PATCHLEVEL.\$SUBLEVEL-\$EXTRAVERSION.  
make mrproper  
make config or make menuconfig or make oldconfig or make xconfig  
make depmake cleanmake bzImagemake modulesmake modules\_installmkinitrd /boot/initrd-2.6.0.img 2.6.0mkinitrd -k vmlinux-VERSION -i initrd-VERSIONcp arch/i386/boot/bzImage /boot/bzImage-KERNEL\_VERSIONcp System.map /boot/System.map-KERNEL\_VERSIONln -s /boot/System.map-KERNEL\_VERSION /boot/System.map

---

### QUESTION 398:

What commands will load a kernel module? (Select TWO answers)

- A. ldmod
- B. modprobe
- C. loadmod
- D. insmod
- E. modload

Answer: B, D

Exlanation: To load the modules into the kernel, use the modprobe or insmod command.

modprobe modulename : Loads the module

insmod modulename: Loads the module

lsmod : list all loaded module

rmmod modulename: removes or unload the module from the kernel

modprobe -r mdoulename: removes or unload the module from the kernel

---

### QUESTION 399:

You need maximum performance of your machine and therefore you decide to unload all dispensable modules. Which command would you use?



- A. rmmod
- B. insmod -r
- C. unmod
- D. module -r

Answer: A

Explanation:

rmmod command remove or unload the module from the kernel. You can use the lsmod command to list all loaded modules.

Example: rmmod modulename

Verify using lsmod command

---

**QUESTION 400:**

Which command would you use to apply the changes in a diff file to your existing kernel source?

- A. up2date
- B. patch
- C. rpm
- D. dpkg
- E. diff

Answer: B

Explanation:

patch takes a patch file containing difference listing produced by the diff program and applies those differences to one or more original files, producing patched versions.

---

**QUESTION 401:**

Upon booting one of your Linux boxes, you notice a message scrolling by that does not look right, but it goes so fast, you do not have a chance to read it. What command could you use to view that message after the boot process completes?

Answer: dmesg

Explanation:

dmesg command helps to print out their bootup messages. What messages are generated at boot time by kernel, you can read by using the dmesg command.

---

**QUESTION 402:**

Runlevels are configured \_\_\_\_\_.

- A. in the kernel
- B. in /etc/inittab
- C. in /etc/runlevels
- D. using the rl command
- E. in rc.sysinit or rc.local

Answer: B

Explanation:

Default runlevel, runlevel specific scripts are written in /etc/inittab file.

Id:5:initdefault: : which line defines the default runlevel

Similarlry runlevel specific scripts to execute also written here:

Si::sysinit:/etc/rc.d/rc.sysinit

10:0:wait:/etc/rc.d/rc 0

11:1:wait:/etc/rc.d/rc 1

12:2:wait:/etc/rc.d/rc 2

13:3:wait:/etc/rc.d/rc 3

14:4:wait:/etc/rc.d/rc 4

15:5:wait:/etc/rc.d/rc 5

16:6:wait:/etc/rc.d/rc 6

---

**QUESTION 403:**

The network connection needs to be started during bootup which requires that the drive module for the network card be loaded properly. Which of the following files is used to map an ethernet device (eth0, for example) to a specific driver module?

- A. /etc/module/config
- B. /etc/modules.conf
- C. /etc/conf/modules
- D. /etc/inmod.conf

Answer: B

Explanation:

Aliases provides uniform ways to address various types of hardware.

By default, aliases are used for ethernet interface, sound cards and usb conrollers.

See the example:

alias eth0 8139too : which creates the alias of 8139too module to eth0.

These aliases are written in /etc/modules.conf or /etc/modprobe.conf file.

---

**QUESTION 404:**

Which configuration file should be modified to disable the ctrl-alt-delete key combination?

- A. /etc/keys
- B. /proc/keys
- C. /etc/inittab
- D. /proc/inittab
- E. /etc/reboot

Answer: C

Explanation:

/etc/inittab file contains functions of ctrl-alt-delete key combinations.

```
ca::ctrlaltdel:/sbin/shutdown -t3 -r now
```

which means reboot the system after three seconds from now. If you want to disable this function just comment this line.

---

**QUESTION 405:**

Ghostscript can be used as:

- A. A Line Printer Daemon
- B. A print filter to convert PostScript data for non-PostScript printers
- C. A print filter to allow correct printing on PostScript printers
- D. A print filter to remove "ghosting" and "staircase" effect problems
- E. A graphical viewer for PostScript files

Answer: B

---

**QUESTION 406:**

Which of the following tools is used to configure CUPS?

- A. lpc
- B. lpadmin
- C. lpr
- D. lpd
- E. lpctrl

Answer: D

Explanation:

lpd is the CUPS line printer Daemon mini-server that supports legacy client systems that use the LPD protocol. CUPS-lpd does not act as a standalone network daemon but instead operates using the Internet "Super-Server" .

More : man cups-lpd

**QUESTION 407:**

Which of the following files is responsible for defining various options and values to control the printing and spooling of print jobs?

- A. /etc/printers
- B. /etc/print.conf
- C. /etc/printcap
- D. /etc/printd.conf

Answer: C

Explanation:

/etc/printcap file contains a list of printer definitions, location of the spool files. Each entry of the file describes a printer with fields separated by ":". The first entry is the name of printer is known by and any aliases separated by "|". Subsequent entries indicate the location and capabilities of the printer.

---

**QUESTION 408:**

You need to find the latest HOWTOs on using SATA devices. What web site hosts the latest HOWTOs?

Answer: [www.serialata.org](http://www.serialata.org)

Explanation:

[www.serialata.org](http://www.serialata.org) is the site provides the latest HOWTO's, documentation on using the SATA devices.

---

**QUESTION 409:**

The directory /usr/share/doc/ contains:

- A. HTML versions of man pages
- B. Man pages for installed packages
- C. Programs for reading documentation
- D. User-created documentation about the system
- E. Supplemental information about installed packages

Answer: E

Explanation:

/usr/share/doc directory contains the documentation for installed packages.

---

**QUESTION 410:**

What file is typically used to display messages at the login prompt when remote users telnet in to the machine?

- A. /etc/issue
- B. /etc/motd
- C. /etc/net.banner
- D. /etc/issue.net

Answer: D

Explanation:

/etc/issue file prints the pre-login message and identification for local login and /etc/issue.net file prints the messages for remote login.

---

**QUESTION 411:**

Your users report that they are using the program dia to create diagrams. They are having problems with the software and they think there is a bug. What command will give you help with functionality and contact information to report a possible bug?

Do not give the path or any options.

Answer: flea

---

**QUESTION 412:**

In compliance with the FHS, in which of the following places are man pages typically found?

- A. /usr/share/man
- B. /opt/man
- C. /usr/doc
- D. /var/pkg/man
- E. /usr/local/man

Answer: A

---

**QUESTION 413:**

You need to find all references in system document to the word "backup". What command would you type? (Do not provide full path).

Answer: grep

Explanation:

grep command prints the lines matching a pattern.

Example: grep root /etc/passwd : which prints all lines from /etc/passwd file having root pattern.

---

**QUESTION 414:**

Choose THREE websites that provide Linux-related news and documentation.

- A. Linux Scoop
- B. LWN.net
- C. Tux Facts
- D. Linux Today
- E. NewsForge

Answer: B, D, E

---

**QUESTION 415:**

You find you execute a series of commands on a recurring basis. You want this series of commands available from your login to run in the current shell.

Choose the best solution:

- A. create a shell program
- B. create a function
- C. use the up arrow in BASH to find the command
- D. use BASH's built-in ! function to run the last iteration of the command by the same name

Answer: B

Explanation:

function is a collection of similar commands. To execute a series of commands on a recurring, you should create a function and execute it.

Creating function:

```
function()  
{  
command1  
command2  
command2  
}
```

To execute function :

function1 : just call the function by name

---

**QUESTION 416:**

You are writing a script and want to test the exit status of a process. Which of the following is true?

- A. The normal exit value differs.
- B. You can't test the normal exit value.
- C. The normal exit value is \$EXIT.
- D. The normal exit value is 0.

Answer: D

Explanation:

When we run the scripts, it returns the exit value that can be either 0 or 1-255 where 0 means exited without error and non-zero means exited with error. Return value can print using echo \$?

---

**QUESTION 417:**

What command prints available functions?

- A. declare -f
- B. set
- C. typeset
- D. function()

Answer: A

Explanation:

declare -f command prints all available functions.

---

**QUESTION 418:**

A user complained that programs started from his shell won't use his favorite editor. Which of the following files should you edit to change this?

- A. .editor
- B. .bashrc
- C. .bash\_rc
- D. ~/bash.conf

Answer: B

---

**QUESTION 419:**

What command will allow you to see all of your environment variables?

- A. echo \$\*

- B. env
- C. which
- D. export

Answer: B

Explanation:

env command displays all environmental and set command displays all environmental as well as shell variables.

---

**QUESTION 420:**

The very first line of a shell script should always contain what two characters at the beginning of the line?

Answer: #!

Explanation:

The first line in a shell scripts should contain 'magic', which is commonly referred to as the she-bang. This tells the operating system which interpreter to use in order to execute the script.

Some example:

- #!/bin/bash : Used for bash scripts
  - #!/bin/sh : Used for Bourne shell scripts
  - #!/usr/bin/perl : Used for Perl Scripts
- 

**QUESTION 421:**

Which of the following commands shows ONLY the user id of Bob? (Select TWO)

- A. cat /etc/passwd | grep Bob | cut -d: -f3
- B. cat /etc/passwd | grep Bob | cut -f: -d3
- C. grep Bob /etc/passwd | awk -F: '\7b print \$3 }'
- D. grep Bob /etc/passwd | awk -f: '\7b print \$3 }'
- E. grep Bob /etc/passwd | cut -F: -d3

Answer: A, C

Explanation:

cut command is used to display certain fields from file and grep displays the line which matched the pattern.

Example: cut -d: -f3 /etc/passwd : where -d means field delimiter, -f means field number.

grep root /etc/passwd : displays the line having root pattern

Similarly awk the is programming language for edit text, searches a file for lines matching a patterns or pattern.



Example: `awk '/bash/ { print }' /etc/passwd` : which prints all lines having bash pattern.

---

**QUESTION 422:**

How to check is Apache's configuration file correct?

Answer: `apachectl configtest`

Explanation:

`apachectl` is the Apache HTTP server control Interface. You can start,

sopt, restart the `httpd` daemon as well as can check the configuration.

To check the configuration of `httpd.conf` use the : `apachectl configtest`

To restart the `httpd` daemon: `apachectl restart`

---

**QUESTION 423:**

We have bash script `~/myscript` shown below:

```
shift
```

```
echo $2
```

We call this script: `~/myscript alpha beta gamma delta`

What will we see?

- A. alpha
- B. beta
- C. gamma
- D. delta

Answer: B

Explanation:

Using bash script we can print the parameter passing from the command line, which start from 1 index number,

`echo $2` : prints the second parameter passing from the command line. `$*` means all parameter passing from the command line.

---

**QUESTION 424:**

`inetd.conf` was changed. How to reinit changes?

- A. restart `inetd`
- B. find `inetd`'s PID and send signal 15 to it
- C. find `inetd`'s PID and send signal `SIGHUP` to it
- D. ...

Answer: C

Explanation: find .... SIGHUP to it - is the correct line

---

**QUESTION 425:**

You are logged in as root. How to check user brown's group?

Answer: groups brown

Explanation:

groups command prints group name belonging the user.

Example, groups user1 : prints the all group name in which user belongs

---

**QUESTION 426:**

What is the name of standard Linux service which provide RIP (Routing Information Protocol)?

- A. zebra
- B. -routed
- C. -ipchains

Answer: B

Explanation:

zebra is the service, which provides the facility to use different Routing Protocol in Linux. i.e RIP, OSPF etc

---

**QUESTION 427:**

You found these lines in the modules.dep file:

/lib/modules/2.2.5-15smp/fs/msdos.o:

/lib/modules/2.2.5-15smp/fs/fat.o

Which of the following is true?

- A. The msdos module is dependent upon fat.
- B. The fat and msdos modules cannot be loaded manually.
- C. The fat and msdos modules are automatically loaded at startup.
- D. The fat module is a submodule to the msdos module.

Answer: A

Explanation:

modules.dep file contains the list of module dependencies.

Whenever you try to load the module , it checks the dependencies, whether dependencies from modules.dep.

modules.dep file contains  
module name : dependencies modules.

---

**QUESTION 428:**

Which utility is used to create the modules.dep file that is required by modprobe?

- A. ksyms
- B. makemod
- C. makedep
- D. lsmod
- E. depmod

Answer: E

Explanation:

/lib/modules/Kernel-Version/modules.dep file contains the entry of module dependencies, which is created by depmod command. depmod creates a list of module dependencies, by reading each module modules.dep identifies the module dependencies.

---

**QUESTION 429:**

What file contains kernel level logging information such as output from a network driver module when it is loaded?

Answer: /var/log/messages

Explanation:

/var/log/messages file contains the standard log messages as defined in /etc/syslog.conf file. See the sample line of /etc/syslog.conf  
\*.info,mail.none;authpriv.none;cron.none/var/log/messages

---

**QUESTION 430:**

You are about to do some administration tasks on a server. Which command would you use to change the runlevel?

Answer: telinit

Explanation:

init or telinit is the parent of all processes. It's primary role is to create processes from a script stored in the file /etc/inittab. To display the current and previous runlevel use the runlevel command

To change the runlevel  
init runlevel or telinit runlevel

---

**QUESTION 431:**

In the LPD system, a print queue is defined in what file?

- A. /etc/lprconf
- B. /etc/printer
- C. /etc/printqueue
- D. /etc/printcap

Answer: D

Explanation:

/etc/printcap file contains the print queue name of the system.

---

**QUESTION 432:**

The normal filesystem location for the LPD queue directory is:

Answer: /usr/spool/LPD/

Explanation:

/var directory contains the spooling as well as log files.

/var/spool/cups contains the spooling queue of cups.

/var/spool/lpd contains the spooling queue of lpd

/var/spool/mail contains the mail spooling queue

---

**QUESTION 433:**

You need to find all references in system documentation to the word backup. What command would you type? (Do not provide full path)

Answer: grep

Explanation:

grep command print the lines matching the pattern from file.

Example: grep root /etc/passwd : It prints all lines having root pattern.

---

**QUESTION 434:**

With the web site, www.tldp.org, what does "tldp" stand for?

Answer: The Linux Documentation Project

Explanaion:

tlp is the Linux Documentation Project, which maintains the Linux HOWTO's, Documentation etc.

---

**QUESTION 435:**

Which file would be used to configure a user's interactive bash shell?

- A. ~/.int\_bash
- B. .bashrc
- C. .profile
- D. .bash

Answer: B

Explanation:

Some important files are in user's home directory, which is used to modify the user's bash shell i.e .bash\_profile, .bashrc, .bash\_history, .bash\_logout etc.

.bash\_profile: This file is used to run the user specific startup program, to set the value in environmental variable.

.bashrc : This file is used to set the user specific aliases, functions.

---

**QUESTION 436:**

Which of the following commands is used to restore files from backups made with dump?

- A. extract
- B. cpio -d
- C. restore
- D. udump

Answer: C

Explanation:

dump is the standard backup utility in Linux, using dump utility we can take either full or incremental backup.

Example: `dump -0u -f /dev/sda /dev/hda7` : which takes the full backup of /dev/hda7 into /dev/sda.

To restore from backup backupd by dump command :

`restore -rf /dev/sda` : Restore command restore from the backup file.

---

**QUESTION 437:**

You are logged in as root. What command do you run to find out what groups user Certkiller belongs to?

Answer: groups Certkiller

Explanation:

groups command prints group name belonging the user.

Example, groups user1 : prints the all group name in which user belongs

---

**QUESTION 438:**

What command is used to view pending jobs for the at command? (Do NOT specify path).

Answer: atq

Explanation:

at command is used to set the job to execute in exact point in time.

Example: at now+ 5 minute

At> poweroff

At>ctl+d

This command will set the schedule to execute the poweroff command after five minutes from now. To display all the queue adding by using the at command use the atq command

---

**QUESTION 439:**

Which of the following lines would you expect to see in the file /etc/services?

- A. in.tftpd: LOCAL
- B. tftp dgram upd wait root /usr/sbin/tcpd in.tftpd
- C. tftp 69/tcp
- D. udp 17 UDP

Answer: C

Explanation:

/etc/services file maps the TCP/UDP ports to common resources. See the example

tcpmux 1/tcp

tcpmux 1/udp

rje 5/tcp

rje 5/udp

echo 7/tcp

echo 7/udp

FTP services uses the port 21 and 20, telnet 23, ssh 22, smtp 25 pop3 110 etc maps that port to services in /etc/services file

tftp service runs on port 69 so, that entry has written in /etc/services file.

**QUESTION 440:**

A new department's local area network has to be connected to the existing LAN using a router. This new department's LAN uses IP addresses from 192.168.112.64/26 and the first free IP address there was reserved for the router. How many IP addresses were left for other hosts to be connected?

- A. 63
- B. 24
- C. 61
- D. 42

Answer: C

---

**QUESTION 441:**

Your senior system administrator asked you to edit the `/etc/inetd.conf` file in order to disable the time service. After doing so, what would be the next thing to do?

- A. Reboot the machine
- B. Restart the `inetd`
- C. Find the PID of `inetd` and kill it with `kill -15`
- D. Find the PID of `inetd` and send it a `SIGHUP`

Answer: D

<http://www.faqs.org/docs/securing/chap5sec36.html>

---

**QUESTION 442:**

You want to make the directory `/home/Jack` available via NFS. Which option do you have to use to grant read permission for the root user on the NFS mounted file system?

- A. `no_root_squash`
- B. `root_squash`
- C. `root(rw)`
- D. For safety, the NFS protocol does not allow this?

Answer: A

Explanation:

Entries in `/etc/exports` are exported with `root_squashing` turned on.

This ensures that requests from the root user on a client machine are denied root access to root-owned files on a server machine. Such requests are mapped instead to

a uid such as 65534. This behaviour can be defeated with the `no_root_squash` option but this not recommended.

---

**QUESTION 443:**

You need an additional email address for a user in your department. You decide to add just an alias on your sendmail email server. What command must be executed to make the changes take effect?

Answer: `newaliases`

Explanation:

`/etc/aliases` file is used to send the mail to different address then coming address.

Syntax: `boob: peter :` means mail of boob will get by peter. After modifying the file `/etc/aliases` you should re-build the database using `newaliases` command

---

**QUESTION 444:**

When you run the command `newaliases`, it will:

- A. ask for input on stdin to create new mail aliases.
- B. restart sendmail.
- C. remove the aliases currently configured.
- D. rebuild the aliases database for the file `/etc/aliases`

Answer: D

Explanation:

`/etc/aliases` file is used to send the mail to different address then coming address.

Syntax: `boob: peter :` means mail of boob will get by peter. After modifying the file `/etc/aliases` you should re-build the database using `newaliases` command

---

**QUESTION 445:**

Which of the following commands will lock the user `foobar`'s account?

- A. `userdel -r foobar`
- B. `moduser -l foobar`
- C. `usermod -L foobar`
- D. `userconf -l foobar`

Answer: C

Explanation:



usermod command is used to modify the user accounts.

To lock the user account:

```
usermod -L username
```

To unlock the user account

```
usermod -U username
```

---

**QUESTION 446:**

You are using iptables to protect your private network but allow it to access the Internet. What command do you run to view the current list of rules for masquerading?

- A. iptables -L masquerade
- B. iptables -t filter -L
- C. iptables -t block -L
- D. iptables -t nat -L

Answer: D

Explanation:

iptables is used to set up, maintain and inspect the tables of IP packet filter rules in the Linux kernel. Several different tables may be defined, each table contains a number of built-in chains and may also contain user-defined chains. Each chain is a list of rules which can match a set of packets. Each rule specifies what to do with a packet that matches this is called target.

You can list the policy and rules of iptables using the iptables -L command

Output will get in this syntax:

```
target prot opt source destination
```

Default table is filter: when you use the iptables -L it will display the chains and rules of filter table.

To list rules of masquerading:

```
# iptables -t nat -L
```

---

**QUESTION 447:**

A remote logging system computer with a host name of foobar is being installed on the local network. What line in the system message configuration file will send all system messages to the remote computer?

- A. \*.\* foobar.\*
- B. \*.\* @foobar
- C. \*=foobar
- D. \*. foobar
- E. =foobar

Answer: B

Explanation:

The standard system logging daemons syslogd and klogd are both configured with /etc/syslog.conf. It is possible to configure what kind and what amount of system messages is stored in specific log files.

The format is straightforward, the first entry specifies a semi-colon delimited of facility.priority declarations. The second field specifies the log locations, which is usually a file.

Facility ie. cron, mail, authpriv, daemons, kern, lpr, news, syslog, user etc

Priority: debug, info, notice, warning, err, crit, alert, emerg etc

mail.info means à information or more than information of log message of mail service send to /var/log/maillog

\*.\* means all facility and all priority send to @foobar host.

---

**QUESTION 448:**

In the output of iptables -L -n is the line:

ACCEPT all -- 10.69.70.5 0.0.0.0/

Listed under the INPUT chain. What does this line mean?

- A. That all traffic from 0.0.0.0/0 to 10.69.70.5 is explicitly allowed.
- B. TCP traffic from 10.69.70.5 with all of the TCP flags is allowed.
- C. All traffic from 10.69.70.5 to anywhere is allowed.
- D. The ACCEPT chain is responsible for all traffic from 10.69.70.1 to 0.0.0.0.

Answer: C

Explanation:

iptables is used to set up, maintain and inspect the tables of IP packet filter rules in the Linux kernel. Several different tables may be defined, each table contains a number of built-in chains and may also contain user-defined chains. Each chain is a list of rules which can match a set of packets. Each rule specifies what to do with a packet that matches this is called target.

You can list the policy and rules of iptables using the iptables -L command

Output will get in this syntax:

target prot opt source destination

in output target is Accept, protocol is all no any options, source is 10.69.70.5 and any destination.

Means from 10.69.70.5 to any destination in any port is accepted.

---

**QUESTION 449:**

Which of these are name resolution related files? (Choose two)

- A. /etc/hosts
- B. /etc/hsswitch.conf

- C. /etc/hosts
- D. /etc/man
- E. /etc/dns.conf

Answer: A,E

Explanation:

/etc/hosts and /etc/resolv.conf file used to resolve the name.

/etc/hosts is called the static file to map name, on each and every hosts you should manually update.

Example: 192.168.0.5 station5.example.com station5 : Which maps the 192.168.0.5 into station5.example.com but you should write this information on each and every hosts.

/etc/resolv.conf : where we specified the name server.

Example: nameserver 192.168.0.1

When user try to access the host, it goes to nameserver to resolve and gets the maps name.

---

**QUESTION 450:**

You need to run a second Apache server on the same IP address. Which of the following is true?

- A. You can't run more than one Apache on one IP address.
- B. You have to add a new entry in /etc/services.
- C. The second Apache server must listen on another port.
- D. The second Apache must be a child process of the first.

Answer: A

Explanation:

We can't run more than one Web server on the same IP address.

---

**QUESTION 451:**

Within smb.conf, which security setting will NOT require that a client connect using a valid username and password before connecting to a shared resource?

- A. security = user
- B. security = share
- C. security = server
- D. security = guest

Answer: D

Explanation:

1. Security=Server : Server Security mode is left over from the time when samba was not capable of acting as a domain member server. It is highly recommended not to use this feature.
2. Security=User : User level security first because it's simpler. In user-level security, the client sends a session setup request directly following protocol negotiation. This request provides a username and password. The server can either accept or reject the username and password combination.
3. security=share : In share level security, the client authenticates itself separately for each share. It sends a password along with each tree connection request, but it does not explicitly send a username with this operation.

---

**QUESTION 452:**

What can you do to recover a lost passphrase for a DSA or RSA authentication key?

- A. Run the ssh-keygen command.
- B. Run the ss --recover command.
- C. A lost passphrase cannot be recovered.
- D. Decrypt the authentication key with gpg.
- E. Decrypt the authentication key with ssh --decrypt.

Answer: C

Explanation:

Reference:

[http://www.cs.utah.edu/support/index.php?option=com\\_content&task=view&id=32&Itemid=58](http://www.cs.utah.edu/support/index.php?option=com_content&task=view&id=32&Itemid=58)

---

**QUESTION 453:**

The \_\_\_\_\_ file is the configuration file for ntpd.

Answer: /etc/ntp.conf

Explanation:

The ntpd program is an operating system daemon which sets and maintains the system time of day in synchronism with Internet standard time servers.

/etc/ntp.conf : Default configuration file.

/etc/ntp/keys : The default name of the key file

/etc/ntp/ntpervers : The file contains the NTP server to synchronize the time.

---

**QUESTION 454:**

When adding a new user to the system using standard Linux commands, which directory contains the initial files copied to the new user's home directory?

Answer: /etc/skel

Explanation:

/etc/skel directory is called the template directory which contains the .bashrc, bash\_profile, bash\_logout, bash\_history etc and which files used to modify the user's environment.

When we use the useradd command, it automatically copy all the contents of /etc/skel into the user's home directory.

---

**QUESTION 455:**

A user cannot access the cron scheduling system. What file needs to be configured to provide that access?

Answer: /etc/cron.deny and /etc/cron.allow

Explanation:

If the file cron.allow exists and your username appears in it, you may use or access the cron scheduling. If the cron.allow file does not exist and the file cron.deny does, you must not be listed in cron.deny to use cron schedule. If neither file exists the default behaviour is not allow all users to schedule jobs, with cron.

---

**QUESTION 456:**

In which file can you find these lines?

```
alias eth0 ne2k-pci
options ne2k-pci io=0x300 irq=5
```

Answer: /etc/modules.conf

Answer: /etc/modprobe.conf

Explanation:

/etc/modules.conf or /etc/modprobe.conf file contains the aliases of modules as well as parameter i.e aliases for ethernet card, sound card etc. i.e alias eth0 8139too : Actually modules of device is 8139too and creating the aliases to eth0

---

**QUESTION 457:**

The correct command to view "verbose" line printer queue information is:

- A. lpg -l
- B. lpg -all
- C. lpq --verbose

D. lpq -a

Answer: D

Explanation:

lpq command shows the current print queue status on the named printer.

Example: lpq : List the current print queue of default printer

lpq -Pprinter1 : List the print queue of printer1

lpq -a -Pprinter1 : -a option reports jobs on all printers.

---

**QUESTION 458:**

What command should be entered to print and then delete the filem foobar.txt?

- A. lpr -o delete foobar.txt
- B. lpr -d foobar.txt
- C. lpr -r foobar.txt
- D. lpr -o remove foobar.txt

Answer: C

Explanation:

lpr command prints the files, when we use the lpr command without any option, it will print the document as well as document put as previous state. -r option helps to remove the file after printing.

---

**QUESTION 459:**

In what section of the man pages would you expect to find the man page that documents /dev/null?

Answer: man -K /dev/null

Explanation:

-K option of man page helps to search for the specified string in all man pages.

---

**QUESTION 460:**

You want to change the file that contains the message which is used at the login prompt when users log in locally. Please enter the file including the path.

Answer: /etc/issue

Explanation:

/etc/issue file is called pre-login message and identification file,  
Whereever message you write into this file will display at local login prompt and  
/etc/issue.net is for remote login prompt i.e telnet.

---

**QUESTION 461:**

You are looking into a new script you received from your senior administrator. In the very first line you notice a #! followed by a path to a binary. The shell will:

- A. Ignore the script.
- B. Use that binary to interpret the script.
- C. Use that binary to compile the script.
- D. Be placed by that binary.

Answer: B

Explanation:

On Every Script file, we should write the path of binary interpreter

Example: #!/bin/bash where bash is the interpreter of bash shell scripts.

---

**QUESTION 462:**

Which command will delete the environment variable, FOOBAR?

- A. unset FOOBAR
- B. del \$FOOBAR
- C. export FOOBAR
- D. export FOOBAR=

Answer: A

Explanation:

unset command is used to delete the environmental variable or shell variable.

Example: X=10

echo \$X (Available)

unset X

echo \$X (not available)

---

**QUESTION 463:**

The \_\_\_\_\_ file maps TCP and UDP ports to common resources.

Answer: /etc/services

Explanation:

/etc/services file maps the TCP/UDP ports to common resources. See the example

tcpmux 1/tcp

tcpmux 1/udp

rje 5/tcp

rje 5/udp

echo 7/tcp

echo 7/udp

FTP services uses the port 21 and 20, telnet 23, ssh 22, smtp 25 pop3 110 etc maps that port to services in /etc/services file

---

**QUESTION 464:**

Which IP protocol is connectionless and unreliable?

Answer: UDP

Explanation:

UDP provides a service for applications to exchange messages. Unlike TCP, UDP is connectionless and provides no reliability, no windowing, and no reordering of the received data. However, UDP provides some functions of TCP, such as data transfer, segmentation, and multiplexing using port numbers, and it does so with fewer bytes of overhead and with less processing required.

---

**QUESTION 465:**

When using PAP and PPP, the /etc/ppp/pap-secrets file must be:

- A. world-readable.
- B. readable only by the ppp user.
- C. readable only by root.
- D. readable and executable by user root and group ppp.

Answer: C

Explanation:

By default permission of /etc/ppp/pap-secrets is:

```
-rw----- 1 root root 231 Jan 3 09:25 /etc/ppp/pap-secrets
```

---

**QUESTION 466:**

What are the addresses falling into the range of 224.0.0.0 through 254.0.0.0?

- A. Class C network
- B. Class B network
- C. This is an experimental address range.



D. This is a broadcast range.

Answer: C,D

Explanation:

IP address classified into different classes. Class A, B, C, D and E.

Among all these classes only class A, B C are usable and Class D use to Broad Cast and E for Research.

Class A: 1.0.0.0 to 127.255.255.255 where 10.0.0.0 to 10.255.255.255 is Private IP as well 127 reserve for Loopback.

Class B: 128.0.0.0 to 191.255.255.255 Where 172.168.0.0 to 172.31.255.255 is Private IP

Class C: 192.0.0.0 to 223.255.255.255 where 192.168.0.0 to 192.168.255.255 is Private IP

Class D: 224.0.0.0 to 239.255.255.255 called Multicasting Address

Class E : 240.0.0.0 to 254.255.255.255 Reserved For Research.

---

**QUESTION 467:**

Which of the following lines would you find the file /etc/hosts?

- A. order hosts,bind
- B. 192.168.168.4 dns-server
- C. hosts: files,dns
- D. domain mycompany.com

Answer: B

Explanation:

/etc/hosts file naps the name of host to IP address. You need to map in each and every host.

Example:

192.168.0.254 server1.example.com server1

which maps the server1.example.com or server1 into 192.168.0.254.