Section 23 Lab
LPIC-1, Exam 1 (101-500)
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Recommended Linux Distributions for this exercise:

- CentOS version 7
- Ubuntu Desktop 18.04LTS

Note: For a successful lab session, it is assumed you are using the recommended Linux distribution(s) and the recommended version, and that your Linux systems are booted. In addition, it is assumed that you can log into the system as a standard user as well as either the root account or a user with super user privileges. Also, you should have successfully completed the prior sections' labs and sessions & viewed this section's videos.

Follow these actions to explore concepts and commands covered in this section (but please feel free to explore as much as you want. And don't forget that you can get help on the usage of these commands through the man pages. Type in **man** and follow it with the utility name, then press Enter to view information on the utility):

1. Log into either your Ubuntu or CentOS distro tty2 terminal, using the username and password you created when you installed the system.
2. Check the CPU extensions on your system by typing **grep ^flags /proc/cpuinfo | grep vmx** and pressing Enter. If you get a response, then you are most likely running on a host system that will support virtualization and has an Intel chip.
3. Perform another check of the CPU extensions on your system by typing **grep ^flags /proc/cpuinfo | grep svm** and pressing Enter. If you get a response, then you are most likely running on a host system that will support virtualization and has an AMD chip.
4. Perform one more check of the CPU extensions by typing **grep ^flags /proc/cpuinfo** and pressing Enter. If you see the word **hypervisor** within the flags, then most likely you are running your Linux system as a guest VM on another system.
5. View your system's D-bus machine ID, by typing **cat /etc/machine-id** and pressing Enter. Notice the length of the resulting ID.
6. Take another look at your system's D-bus machine ID, by typing **cat /var/lib/dbus/machine-id** and pressing Enter. It is OK, if you get a "file not found" message, because not all systems have this file. If you do see an ID, notice the length of it.
7. Determine if you could regenerate an ID number to use as the D-bus machine's ID, by typing **which dbus-uuidgen** and pressing Enter. If you have this utility, then you can regenerate an ID number
8. See if the Docker container engine software is installed on your system, by typing **which docker** and pressing Enter. If you get an absolute directory reference, consider trying to create a container as was done in the video session on containers.
9. Using your favorite Internet search engine, look up the term **Hypervisor** and record your findings.
10. Continuing to use your favorite Internet search engine, look up the term **Hypervisor Type 1** and record your findings.
11. Continuing to use your favorite Internet search engine, look up the term **Hypervisor Type 2** and record your findings.
12. Continuing to use your favorite Internet search engine, look up the term **Container Engine** and record your findings.
13. Continuing to use your favorite Internet search engine, look up the term **IaaS** and record your findings.
14. Continuing to use your favorite Internet search engine, look up the term **PaaS** and record your findings.
15. Continuing to use your favorite Internet search engine, look up the term **SaaS** and record your findings.
16. Continuing to use your favorite Internet search engine, look up cloud service provider (CSP) sites, such as **Amazon Web Services** (AWS), and record the types of instance offerings they provide (examples: management console, elasticity, object storage)
17. Determine if your system has SSH utilities that you could use to generate keys to provide an encrypted method of accessing an instance in the cloud, by typing **which ssh-keygen** and pressing Enter.