Embedded Linux Commands Lab 3

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Abstract

- Useful, every day Linux commands to learn
- The basis for these commands have been taken from [1] with the examples added by me.
- Practice the commands with real world examples.

1 Command Line Tips

- Using the Command Line Interface (CLI) is mandatory for many operations needed for embedded Linux development.
- It is a very powerful way of interacting with the system, with which you can save a lot of time.
- Some useful tips
- You can use several tabs in the Gnome Terminal
- Remember that you can use relative paths (for example: ../../linux) in addition to absolute paths (for example: /home/user)
- In a shell, hit [Control] [r], then a keyword, will search through the command history. Hit [Control] [r] again to search backwards in the history
- You can copy/paste paths directly from the file manager to the terminal by drag-and-drop

2 Useful Commands Tutorial

A more indepth cheat sheet can be found at `https://free-electrons.com/doc/legacy/command-line/command_memento.pdf`. Table 1 lists an every day selection of useful commands. With these commands you are to do the following:

- Create a directory called ***temp*** and change into that directory
- Create an empty file called ***blank*** and change the owner
- Change the permissions on the file to have execute privileges.
- Change directory up to the parent directory.
- Create a symbolic link to the ***blank*** file and call the link ***linkBlank***
- Locate the new ***linkBlank*** file
- Edit the ***blank*** file and add some text and save the file. Use Vi or nano for this.
- Use the file command to see what type of data is in ***linkBlank*** file.
- Show the contents of ***linkBlank*** with, e.g. cat or less.
- Copy the ***linkBlank*** file up a directory to the parent directory and rename it ***linkBlankCopy***
- Delete the directory ***temp***

References

Blum, Richard (2017). *Common Linux Commands*. URL: `http://www.dummies.com/computers/operating-systems/linux/common-linux-commands/`.

Table 1: Useful Commands

Command	Description	Example
cat [filename]	Display file's contents to the standard	
	output device (usually your monitor)	cat ~/.bashrc
cd /directoryPath	Change to directory	cd ~/.
chmod [options] mode filename	Change a file's permissions.	chmod +x ~/.bashrc
chown [options] filename	Change who owns a file	chown pi ~/.bashrc
clear	Clear a command line screen/window	clear
cp [options] source destination	Copy files and directories	cp ~/.bashrc ~/.bashrcBak
date [options]	Display or set the system date and time	date
df [options]	Display used and available disk space	df .
du [options]	Show how much space each file takes up	du -skh .
file [options] filename	Determine what type of data is within a file	file ~/.bashrc
find [pathname] [expression]	Search for files matching a provided pattern	find . -name "*.bashrc*"
grep [options] pattern [filesname]	Search files or output for a particular pattern	grep -iH "debian" ~/.bashrc
kill [options] pid	Stop a process.	
	If the process refuses to stop, use kill -9 pid	kill 1234
less [options] [filename]	View the contents of a file one page at a time	less ~/.bashrc
ln [options] source [destination]	Create a shortcut	ln -s ~/.bashrc ~/linkedBashrc
locate filename	Search for the specified filename	locate ~/.bashrc
lpr [options]	Send a print job.	lpr -P C249 ~/.bashrc
ls [options]	List directory contents	ls
man [command]	Display help for the command	man ls
mkdir [options] directory	Create a new directory	mkdir ~/temp
mv [options] source destination	Rename or move file(s) or directories	mv ~/linkedBashrc movedLinkedBashrc
passwd [name [password]]	Change the password	passwd
ps [options]	Display a snapshot of running processes	ps -auwx
pwd	Display the pathname for the current directory	pwd
rm [options] directory	Remove (delete) file(s) and/or directories	rm ~/movedLinkedBashrc
rmdir [options] directory	Delete empty directories	rm -r temp
ssh [options] user@machine	Remotely log in to another Linux machine.	
	Leave an ssh session by typing exit	ssh 10.40.15.187
su [options] [user [arguments]]	Switch to another user account	su root
tail [options] [filename]	Display the last n lines of a file (default=10)	tail -5 ~/.bashrc
tar [options] filename	Store / extract files from a tarfile (.tar)	
	or tarball (.tar.gz or .tgz).	tar -zcvf bashrc.tar.gz ~/.bashrc
top	Displays the resources being used on your system.	
	Press q to exit.	top
touch filename	Create an empty file with the specified name.	touch newFile
who [options]	Display who is logged on.	who