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Using the Shell

UIC Linux Users Group

September 9, 2010

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Hold Your Comments

About the Presenter

- ▶ Alias: eviljoel (or ej)
- ▶ Name: Joel Luellwitz
- ▶ 7 Years of Linux Experience.
- ▶ UIC Alumni
  - ▶ Management Information Systems Masters from the CBA.
- ▶ Works at Peapod.com.

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Hold Your Comments

Please hold your comments and contributions!

▶ Questions are OK if you are confused or behind.

▶ May have time for questions at the end.

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Open a Shell
A Shell, what is it?

This is an interactive presentation.

- ► Login
    - ► Ask if you need help.
- ► Click on Applications⇒Accessories⇒Terminal
- ► Type 'bash' (Enter) for a real shell.

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Open a Shell
A Shell, what is it?

A Shell, what is it?

- ▶ It interprets commands from the user.
- ▶ Passes control to other programs.
- ▶ Supports batch operations via scripting.
- ▶ bash is one of many shells.
    - ▶ sh, csh, tcsh, zsh, etc.

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List (ls)
bash Tips
Directory Commands
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Moving, Copying and Deleting

List (ls)

Lists files and directories.

- ▶ Directories are equivalent to folders.

- ▶ ls

- ▶ ls -l

- ▶ ls -a

- ▶ ls -la

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List (ls) (continued)

- ▶ Wildcards (* and ?)
- ▶ more
  - ▶ ls -l | more

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Random bash Tips

- ▶ Tab Completion
- ▶ Command History

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Directory Commands

- pwd
- mkdir <directory>
- rmdir <directory>

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Change Directory (cd)

Changes the current working directory.

- ▶ cd <directory>
- ▶ cd /
    - ▶ All locations start here.
    - ▶ No drives like on Windows or DOS.
- ▶ cd ~ (or just cd)
    - ▶ Taks you to /home/<your username>

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Change Directory (cd) - Relative Navigation

- cd ./
- cd ../
- cd ../../someotherplace/

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Mount Points

All physical volumes are part of the same hierarchy.

- ▶ Mount points are found under /mnt and /media.
- ▶ mount <device> <mount point>
- ▶ umount <mount point>

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Moving, Copying and Deleting

- touch <file>
  - Use it to create empty files.
- mv -i <source> <destination>
  - Rename and Move
- cp -i <source> <destination>
- rm -i <file(s)>
  - rm -rfI <directory(ies)>

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Example Shell Script
File Permissions
Directory Permissions
User, Group, Other Permissions
Complex Permissions
Symlinks

Example Shell Script

echo \#\!/bin/sh > temp.sh
echo echo \"Hello world\!\\n\" >> temp.sh

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Example Shell Script (continued)

- ▶ cat temp.sh
- ▶ echo
- ▶ #!
- ▶ File Redirection

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Example Shell Script
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File Permissions

- chmod <permission> file(s)
  - Read u+r (r--)
  - Write u+w (-w-)
  - Execute u+x (--x)
    - chmod u+x temp.sh
    - ./temp.sh
- ls -l

Directory Permissions

- chmod <permission> directory(ies)
  - Read u+r (r--)
  - Write (-w-)
  - Traverse (--x)
- ls -l
  - d---------

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User, Group, Other Permissions

- chmod u+rwx <file(s)> (-rwx------)
- chmod g+rwx <file(s)> (----rwx---)
- chmod o+rwx <file(s)> (-------rwx)

- chmod u-rw <file(s)>
- chmod a+rx <file(s)>
- chmod 755 <file(s)> (-rwxr-wr-w)

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User, Group, Other Permissions

- ▶ -rwsr-Sr-t
- ▶ Layered directories to support complex permissions.
- ▶ Access Control Lists
    - ▶ Security Enhanced Linux

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Symlinks

- ▶ Can be used for security.
- ▶ Hard and Soft Links
- ▶ ln -s <realfile> <symlink>
  - ▶ Like a Windows Shortcut.
  - ▶ More Transparent.

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Environment Variables
Text Editors
Other Commands

Environment Variables

- ▶ echo $TERM
- ▶ export TERM="xterm"
- ▶ $SHELL $DISPLAY $HOSTNAME $JAVA $PATH

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Text Editors

- ▶ Newbies use pico or nano.
- ▶ Real Linux users use vim.
  - ▶ Weird people use emacs.

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Other Commands

- ▶ man
- ▶ Ctrl-C
- ▶ backtick (')
- ▶ screen

Questions?

Questions?

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About the UIC-LUG & UIC-ACM

UIC LUG

- ▶ Meetings on Thursdays at 5:00 PM
- ▶ in SEL 2260 (Next Door)

UIC ACM

- ▶ ACM Office: SEL East 2262
- ▶ Meetings on select Thursdays at 6:00 PM
- ▶ in SEO 1000