Advanced shell
IT Workshop II - Lecture 1

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- `ssh`
- `scp`

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- `ssh`
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- `rsync`

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- `ssh`
- `scp`
- `rsync`
- `passwd`

Working remotely

- `ssh`
- `scp`
- `rsync`
- `passwd`
- Winscp (Windows based)

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- `ssh`
- `scp`
- `rsync`
- `passwd`
- Winscp (Windows based)
- Putty (Windows based)

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- `rsync`
- `passwd`
- Winscp (Windows based)
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- SSH Secure Shell client (Windows based)

Working remotely

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- Winscp (Windows based)
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- SSH Secure Shell client (Windows based)
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Redirection

- $>$ $\rightarrow$ Send output to file

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- $>$ $\rightarrow$ Send output to file
- $<$ $\rightarrow$ Take input from file

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- $>$ $\rightarrow$ Send output to file
- $<$ $\rightarrow$ Take input from file
- $2>$ $\rightarrow$ Send error output to file

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- $|$ $\rightarrow$ Send output to program as input

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- $|$ $\rightarrow$ Send output to program as input
- ‘ ‘ $\rightarrow$ Use command output as argument

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- *tee* $\rightarrow$ Print as well as send to file

Redirection

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- $>>$ $\rightarrow$ Append output to file
- $|$ $\rightarrow$ Send output to program as input
- ‘ ‘ $\rightarrow$ Use command output as argument
- *tee* $\rightarrow$ Print as well as send to file
- $tail - f$ $\rightarrow$ Print file contents till Ctrl+C

Processes

- `Ctrl + Z`

Processes

- `Ctrl + Z`
- `fg`

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- `Ctrl + Z`
- `fg`
- `jobs`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`
- `ps`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`
- `ps`
- `&`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`
- `ps`
- `&`
- `;`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`
- `ps`
- `&`
- `;`
- `Ctrl + C`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`
- `ps`
- `&`
- `;`
- `Ctrl + C`
- `kill`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`
- `ps`
- `&`
- `;`
- `Ctrl + C`
- `kill`
- `killall`

Processes

- `Ctrl + Z`
- `fg`
- `jobs`
- `bg`
- `ps`
- `&`
- `;`
- `Ctrl + C`
- `kill`
- `killall`
- `top`

Command line features

- Shell wildcards '*', '?' and '[ ]'

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Command line features

- Shell wildcards '*', '?' and '[ ]'
- `!<command>` → Run last command with same program name
- `echo $?` → Return value of last command
- `Ctrl + R` → Reverse incremental search
- `history`

Environment variables

- `set`

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- `set`
- `export`

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- `set`
- `export`
- `echo`

Environment variables

- `set`
- `export`
- `echo`
- `alias`

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- `unalias`

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- Important variables
  - `PATH`

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Environment variables

- `set`
- `export`
- `echo`
- `alias`
- `unalias`
- Important variables
  - `PATH`
  - `PWD`
  - `HISTTIMEFORMAT='%y %m %d %T '`

Environment variables

- `set`
- `export`
- `echo`
- `alias`
- `unalias`
- Important variables
  - `PATH`
  - `PWD`
  - `HISTTIMEFORMAT='%y %m %d %T '`
  - `PS1`

Others

- Understand output of `man hier`
- Downloading files `wget`, `axel`
- `./configure; make; make install`
- `.bashrc`, `.bash_profile`, `/etc/profile.d`
- `/etc/rc`$< n >$`.d`, `chkconfig`, `service`
- Sourcing scripts - Environments, ‘`su -`’ vs ‘`su`’
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Interested students can refer to Shell scripting lecture, Examples on my homepage to learn more about shell and its features.