

# Hands-on Introduction to Linux Commands and Shell Scripting

## Common Linux/Unix Shell Commands

### What is a shell?

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- User interface for running commands
- Interactive language
- Scripting language



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### A sea of shells

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- Default shell is usually Bash
- Many other shells, including sh, ksh, tcsh, zsh, and fish
- We will use Bash for this course

```
$ printenv SHELL
/bin/bash
$ bash
```

```
$
```

```
>
```

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## Shell command applications

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- Getting information
- Navigating and working with files and directories
- Printing file and string contents
- Compression and archiving
- Performing network operations
- Monitoring performance and status
- Running batch jobs



## Getting information

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Some common shell commands for getting information include:

- whoami - username
- id - user ID and group ID
- uname - operating system name
- ps - running processes
- top - resource usage
- df - mounted file systems
- man - reference manual
- date - today's date



## Working with files

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Some common shell commands for working with files include:

- cp - copy file
- mv - change file name or path
- rm - remove file
- touch - create empty file, update file timestamp
- chmod - change/modify file permissions
- wc - get count of lines, words, characters in file

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## Navigating & working with directories

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Very common shell commands for navigating and working with directories include:

- ls - list files and directories
- find - find files in directory tree
- pwd - get present working directory
- mkdir - make directory
- cd - change directory
- rmdir - remove directory

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## Printing file and string contents

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For printing file contents or strings, common commands include:

- `cat` – print file contents
- `more` – print file contents page-by-page
- `head` – print first N lines of file
- `tail` – print last N lines of file
- `echo` – print string or variable value

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## Compression and archiving

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Shell commands related to file compression and archiving applications include:

- `tar` – archive a set of files
- `zip` – compress a set of files
- `unzip` – extract files from a compressed zip archive

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## Networking

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Networking applications include the following:

- `hostname` – print hostname
- `ping` – send packets to URL and print response
- `ifconfig` – display or configure system network interfaces
- `curl` – display contents of file at a URL
- `wget` – download file from URL

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## Running Linux on a Windows machine

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- Dual boot with a partition
- Install Linux on a virtual machine
- Use a Linux emulator
- Windows Subsystem for Linux (WSL)

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## Summary

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In this video, you learned that:

- A shell is an interactive user interface
- Shell commands – used for navigating and working with files and directories
- Shell commands can be used to zip and unzip files
- curl and wget – display and download files from URLs
- echo – prints string or variable values
- cat and tail – used to display file contents

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