## Fundamentals - 1.1 Course Intro Digital Career Institute





## Goal of the Module

#### **Course Kick Off**

Get an overview of the course' structure and characteristics

#### **Introduction to Linux**

- Know characteristics of Linux
- Learn about the Shell



## Topics

#### **Course Kick Off**

- Course Introduction
- Technical Setup of the Laptops

#### **Introduction to Linux**

- Operating Systems
- Distributions
- Shell (bash)



## Introduction to Linux









"An **operating system** (OS) is system software that *manages* **computer hardware**,



"An **operating system** (OS) is system software that *manages* **computer hardware**, **software resources**,



"An **operating system** (OS) is system software that *manages* **computer hardware**, **software resources**, and provides common services for computer programs."



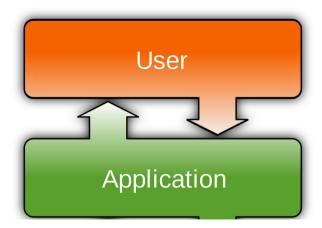
"An **operating system** (OS) is system software that *manages* **computer hardware**, **software resources**, and provides common services for computer programs."



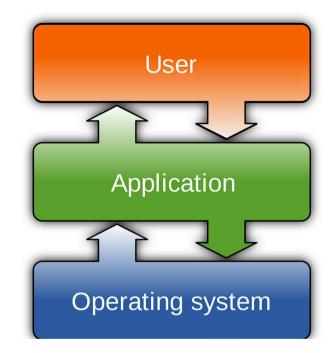




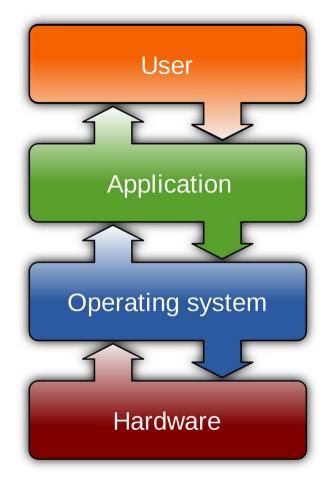
















"Linux is a family of open-source Unix-like operating systems first released on September 17, 1991 by Linus Torvalds."



"Linux is a family of open-source Unix-like? operating systems first released on September 17, 1991 by Linus Torvalds."



"Linux is a family of open-source Unix-like operating systems first released on September 17, 1991 by Linus Torvalds."



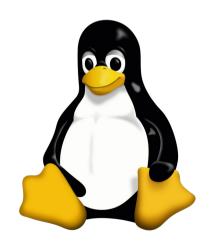
"Linux is a family of open-source Unix-like operating systems first released on September 17, 1991 by Linus Torvalds."

This is **Tux** (see [TUX]) the mascot of Linux:



"Linux is a family of open-source Unix-like operating systems first released on September 17, 1991 by Linus Torvalds."

This is **Tux** (see [TUX]) the mascot of Linux:







[DISTRIBUTION]: https://en.wikipedia.org/wiki/Linux\_distribution

[DEBIAN]: https://en.wikipedia.org/wiki/Debian

[APT]: https://en.wikipedia.org/wiki/APT\_(software)

[RPM]: https://en.wikipedia.org/wiki/RPM\_Package\_Manager

"A Linux distribution (or distro) is an operating system



[DISTRIBUTION]: https://en.wikipedia.org/wiki/Linux\_distribution

[DEBIAN]: https://en.wikipedia.org/wiki/Debian

[APT]: <a href="https://en.wikipedia.org/wiki/APT\_(software">https://en.wikipedia.org/wiki/APT\_(software</a>)
[RPM]: <a href="https://en.wikipedia.org/wiki/RPM">https://en.wikipedia.org/wiki/RPM</a> Package Manager

"A Linux distribution (or distro) is an operating system made from a software collection that is based upon Linux



[DISTRIBUTION]: https://en.wikipedia.org/wiki/Linux\_distribution

[DEBIAN]: <a href="https://en.wikipedia.org/wiki/Debian">https://en.wikipedia.org/wiki/Debian</a>
[APT]: <a href="https://en.wikipedia.org/wiki/APT">https://en.wikipedia.org/wiki/APT</a> (software)

[RPM]: https://en.wikipedia.org/wiki/RPM Package Manager

"A Linux distribution (or distro) is an operating system made from a software collection that is based upon Linux and, often, a package management system."



[DISTRIBUTION]: https://en.wikipedia.org/wiki/Linux\_distribution

[DEBIAN]: <a href="https://en.wikipedia.org/wiki/Debian">https://en.wikipedia.org/wiki/Debian</a>
[APT]: <a href="https://en.wikipedia.org/wiki/APT">https://en.wikipedia.org/wiki/APT</a> (software)

[RPM]: https://en.wikipedia.org/wiki/RPM\_Package\_Manager

"A Linux distribution (or distro) is an operating system made from a software collection that is based upon Linux and, often, a package management system."





[APT]: <a href="https://en.wikipedia.org/wiki/APT\_(software)">https://en.wikipedia.org/wiki/APT\_(software)</a>
[RPM]: <a href="https://en.wikipedia.org/wiki/RPM">https://en.wikipedia.org/wiki/RPM</a> Package Manager



"A Linux distribution (or distro) is an operating system made from a software collection that is based upon Linux and, often, a package management system."

Common package management systems are introduced by debian ("apt") and RedHat ("rpm").



[DISTRIBUTION]: <a href="https://en.wikipedia.org/wiki/Linux\_distribution">https://en.wikipedia.org/wiki/Linux\_distribution</a>
[DEBIAN]: <a href="https://en.wikipedia.org/wiki/Debian">https://en.wikipedia.org/wiki/Debian</a>

[APT]: https://en.wikipedia.org/wiki/APT\_(software)

[RPM]: https://en.wikipedia.org/wiki/RPM Package Manager

"A Linux distribution (or distro) is an operating system made from a software collection that is based upon Linux and, often, a package management system."

Common package management systems are introduced by debian ("apt") and RedHat ("rpm").

#### And Python has "pip"! :D

[DISTRIBUTION]: <a href="https://en.wikipedia.org/wiki/Linux\_distribution">https://en.wikipedia.org/wiki/Linux\_distribution</a>

[DEBIAN]: https://en.wikipedia.org/wiki/Debian

[APT]: <a href="https://en.wikipedia.org/wiki/APT\_(software)">https://en.wikipedia.org/wiki/APT\_(software)</a>
[RPM]: <a href="https://en.wikipedia.org/wiki/RPM\_Package\_Manager">https://en.wikipedia.org/wiki/RPM\_Package\_Manager</a>



## The Shell





"A **Unix shell** is a command-line **interpreter** or shell



"A **Unix shell** is a command-line **interpreter** or shell that provides a command line **user interface** for Unix-like operating systems.



"A Unix shell is a command-line interpreter or shell that provides a command line user interface for Unix-like operating systems. The shell is both an interactive command language and a scripting language



"A Unix shell is a command-line interpreter or shell that provides a command line user interface for Unix-like operating systems. The shell is both an interactive command language and a scripting language, and is used by the operating system to control the execution of the system.



"A Unix shell is a command-line interpreter or shell that provides a command line user interface for Unix-like operating systems. The shell is both an interactive command language and a scripting language, and is used by the operating system to control the execution of the system.





### **Features**



#### Features

#### **Features of all Unix Shells**

filename wildcarding



#### **Features**

#### **Features of all Unix Shells**

- filename wildcarding
- piping



### Features

#### **Features of all Unix Shells**

- filename wildcarding
- piping
- variables
- conditional statements
- iteration



#### Features

#### **Features of all Unix Shells**

- filename wildcarding
- piping
- variables
- conditional statements
- iteration

There exist various shells, among them:



#### Features



- filename wildcarding
- piping
- variables
- conditional statements
- iteration

There exist various shells, among them:

- Bash (Bourne-Again shell; bash) default on most Linux systems
- Z shell (zsh)
   default on macOS since 10.15 Catalina



## THANK YOU

Contact Details DCI Digital Career Institute gGmbH

