

ARMADA
INNOVATION LABS

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Linux History

- A personal project by Linus Torvalds way back 1991 whose goal is just to create an open-source OS.
- There are currently 600 Linux Distros.



Influences of Linux

- Smartphones
- Internet



Why Linux?

- Windows Servers Failures
- Linux is faster, more secure

Linux vs. Windows Comparison

Linux	Windows
Open Source	Commercial
Windows Shell	Linux Shell
Used for Servers	Used by business personnels and gamers



Linux Commands

Basic Linux Commands

Command	Results
touch	Creates a file
cp	Copies a file or folder from a source to destination
mv	Moves a file or folder from a source to destination
rm	Removes a file or folder from a source to destination
pwd	Returns current directory
cd	Changes Directory
ls	List contents
echo	Return or creates a string
cat	Displays the content of a file

Linux Commands

Resources Information Linux Commands

Command	Results
free	Displays memory information
lscpu	Shows CPU/Core information
df	Shows Disk or Storage information
du	Displays the file sizes of existing files
ps	Display running processes
top	Examines current running processes
kill	Stops the process

Linux Commands

Network Related Linux Commands

Command	Results
curl	Sends HTTP Traffic
wget	Download file from a particular URL
ping	Checks if a host or network is reachable
netstat	Displays active TCP connections, ports on which the computer is listening,
iptables	Sets firewall on your Linux

Linux Commands

Debugging Related Linux Commands

Command	Results
vim	file or text editor program
tail	Displays and follows end of the file contents
head	Displays the contents at the top of the file
find	Search for files w/in a directory
grep	Searches data or string inside a file
history	Shows the list of commands entered

Linux Commands

Automation Process Linux Commands

Command	Results
cron	Runs a process periodically or by schedule
systemctl	Manage Daemon



Linux Commands

Security Related Linux Commands

Command	Results
chmod	Changes the access permission
chown	Changes the owner of a file system
useradd	Create a new user
gpasswd	Remove a user

Linux Commands

Package Installation

Command	Results
apt-get update	gets the information about the latest version of packages available for your system
apt-get install php	Installs php
apt-get install apache2	Installs apache
apt-get install python3	Installs Python version 3



Bash Scripting

Bash

- There are no datatypes.
- Have the same conditional statements as with Python
- Can create functions efficiently
- Much harder to develop with Python



Bash Scripting

Activity

- Create a script that will ask a user 2 numerical inputs.
 - 1st input will create folders. **E.g. 3**
 - 2nd input will create files inside those folders. **E.g. 10**
- Executable by `./script.sh`



Linux Command Challenges

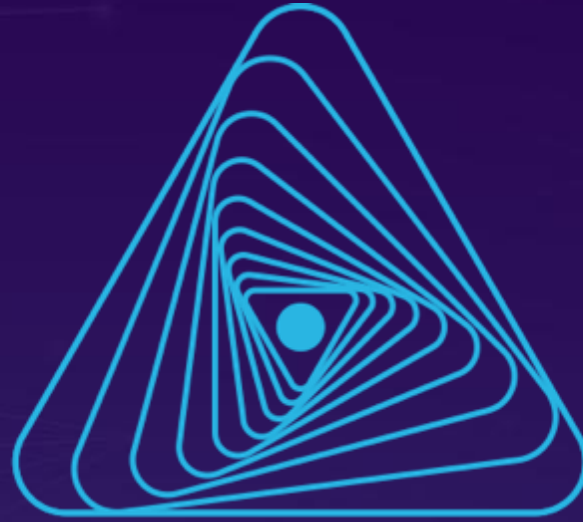
Automation

- Create a cron that creates a file "seconds_file" every 10 seconds and a "minute_file" every minute
- Systemctl Service where it will automatically ping on google every computer startup

Security

- Create a permission where new users will not be able to apply any commands to a file "hello_world.sh"





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