

Week #3 – Disks Management

Overview of the week's objectives

This week's material is focused on disks management; adding / removing / organizing storage devices in a Linux system. This will lead us to explore topics such as partitioning, formatting, boot sector structure, RAID setups.

TODO List

Please refer to “Week #2's Overview PDF” for details / advice about each of the tasks detailed in the remainder of this overview. While we focus on instructions specific to this week's material herein, previous instructions still apply.

Learning Activity			Time in hours		Points
			Expected	Spent	
Reading Assignments	O2L4	Studying Guides & Videos	2		
Practice Assignments	O2L4-PQ	Taking Practice Quizzes	2		
	W3-PA	Working on PAs & Participating to PA forums	5		
Graded Assignments	W3-GQ	Taking Graded Quiz	1		2
	W3-DF1	Participating to Discussion forums	2		1
	W3-DF2				
			12		3

Task #1 – Study & Practice

Refer to “Week #2’s Overview PDF” for detailed instructions on how to use [online module guides](#), [practice quizzes](#) and our [support forum](#) while working on this task.

Task #2 – Practice Assignments

Refer to “Week #2’s Overview PDF” for detailed instructions applying to all Practice Assignments.

Question #1

Install a new Linux virtual machine from scratch. Start by setting a new hard drive in your virtual box software and use Gparted when running the Ubuntu installer to partition it as follows;

- The first partition should be 5 GB meant to host the entire Linux operating system
- The second partition should be a 1GB swap drive.
- The third partition should be a 3 GB partition meant to store some data which will be mounted to /data

Take a screenshot of the hard drive configuration shown by Gparted.

Question #2

Create a folder on your new hard drive and name it Linux1. Set the permissions to allow yourself read / write access and set permissions for all other users to read only. Take a screenshot showing the folder and its permissions.

Question #3

Reformat your third partition from within the running Linux system itself. Take a screenshot from the disk utility showing the details of the formatted drive.

Question #4

Use the disk utility application to partition your hard drive so that the third partition is replaced by two 1.5GB partitions. How would you do this from within the running Linux system? Are there alternatives? Explain how you tackled this task and document success with screenshots.

Task #3 – Discussion Forums

Refer to “Week #2’s Overview PDF” for detailed instructions applying to all discussion forums assignments.

Topic #1 – W3DF1 – File system fragmentation

Using the Internet, research and compare defragmentation options between Windows and Linux flavors. Post on the forum to explain, in your own words, why Linux does not require defragmentation applications as much as a Windows-based system.

Research and compare defragmentation options between Windows and Linux. Explain, in your own words, why defragmentation is less of an issue on a Linux file system than on a Windows one.

Topic #2 – W3DF2 forum – software vs. hardware RAID

Your lead system administrator needs a refresher of the situation today about Linux software RAID solutions. Use the internet to research and compare software vs. hardware RAID Linux solutions. Post on the forum to address his request, in your own words.

What RAID levels are available compared to hardware solutions? What are the advantages / disadvantages of using a software RAID approach? In what kind of scenario would you recommend going with software RAID / hardware RAID / either?

Task #4 – Graded quizzes

Refer to “Week #2’s Overview PDF” for detailed instructions applying to all graded quizzes.