

Instructor	Dr. Juan Carlos Galán Hernández	Term	Spring 2017
Course	Network and Server Laboratory	Code	LIS4091

1 Purpose

This document describes the content and activities for Weeks 05 and 06 of the course **Network and Server Administration** with code **LI4081**.

2 Instructor-led Training Activities

1. Creation of a BIOS based virtual appliance for a source based server
2. Learners will be guided through the installation process of Arch Linux
3. Steps
 - 3.1. Create VM with 256RAM and 8Gb HDD
 - 256RAM
 - 8Gb HDD
 - 128 MB Video (Important, failing on this parameter may cause keyboard malfunction)
 - 3.2. Start VM and use a recent Arch Linux ISO
 - 3.3. Run x86₆₄ bootable
 - i. If a mount error appears (initramfs unpacking failed) please check your ISO
 - 3.4. Personal Choice = switch keyboard to dvorak-programmer
 - i. `loadkeys programmer-dvorak`
 - ii. Or load a latin keyboard
 - A. `es` when the char `@` is on your **2** key of the main keyboard
 - B. `la-latin1` when the char `@` is on your **Q** key
 - 3.5. Use `gparted~` to create partitions
 - Create a label with type msdos
 - `mklabel msdos`
 - Create a swap partition after the first MiB of 512MiB (double of RAM until 4GB)
 - `Primar`
 - `linux-swap`
 - `mkpart primary linux-swap 1MiB 513MiB`
 - Create a boot partition of 512MB or more
 - `Primary`
 - `ext2`
 - `mkpart primary ext2 513MiB 1025MiB`
 - Use the rest of the disk on another partition

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- Primary

- ext4

- mkpart primary ext4 1025MiB 100%

- Turn on boot flag

- set 2 boot on

- Check alignment

- align-check opt 1

- If alignment throws an error, erase the table and start again

3.6. Format Partitions

- i. mkswap /dev/sda1

- ii. mkfs.ext2 /dev/sda2

- iii. mkfs.ext4 /dev/sda4

- iv. When in doubt of partition numbers use lsblk

3.7. Mount the virtual drive to the /mnt partition

- i. mount /dev/sda3 /mnt

- ii. mkdir /mnt/boot

- iii. mount /dev/sda2 /mnt/boot

3.8. Activate swap space

- i. swapon /dev/sda1

3.9. Pull Arch base packages

- i. pacstrap /mnt base base-devel

3.10. Prepare file system

- i. genfstab -U > /mnt/etc/fstab

3 Self-pace Learning Activities

- [Arch Linux official installation guide](#)
- [Arch Linux Installation Tutorial](#)