**PART 1:**

**Dual Boot Linux(RHEL or CentOS) and Widows Server with ( GPT and MBR )**

**Try both one by one.**

**Install Linux with minimal (no GUI)**

**In Linux while creating partition, create using LVM**

**P****ART 2:**

**Task 1:**

Install the latest (CentOS or RHEL) OS

Installation: minimal

Install using GPT

|  |  |  |  |
| --- | --- | --- | --- |
| directory | Size | VG Name | LV-name |
| **/** | **100GB** | VG-system | lv-root |
| **/boot** | **2GB** | **Standard Partition**  **(No LVM)** | ----- |
| **/home** | **30 GB** | VG-data | lv-home |
| **/var** | **20GB** | VG-system | lv-var |
| **/tmp** | **20GB** | VG-data | lv-tmp |
| **SWAP** | **Depending on RAM** | VG-system | lv-swap |
| **/data** | **10GB** | **VG-Entertainment** | lv-data |
| **/movies** | **10GB** | **VG-Entertainment** | lv-movies |

**Task 2:**

Configure your base machine as “Yum Server”

→ Copy all packages from DVD/ISO to base machine

→ share the packages via http/FTP

Note:

You can either extract all the files from iso and copy to a specific directory

or

You can mount iso to a directory

**Task 3:**

Install GNOME

**Task 4:**

Install KVM / Virtual Machine Manager

**Task 5:**

Create the following Guest OS :

Each Guest should have 2 storage

HDD1 : 20G

HDD2 : 10G

RAM : Depending on the Guest

CPU : 1 Core

pc1.kochi.ibm.com : CentOS7.5

pc2.kochi.ibm.com : CentOS7.1

pc3.kochi.ibm.com : RHEL7

pc4.kochi.ibm.com : Ubuntu

pc5.kochi.ibm.com : Windows

Assign hostname

**Task 6:**

Assign IP address manually on base machine, pc1, pc2, pc3 in the range: 172.20.10.0/24

**Task 7:**

pc4, pc5 should get address from DHCP server

So Configure PC1 as DHCP Server

**Task 8:**

Check whether VM’s / Guest are able to communicate with Host or Base PC

VM’s should also communicate with the pc’s connected outside or internet

**Task 9:**

Configure base machine as YUM server, so that pc1, pc2, pc3 can download package from pc1

Check whether you can install packages on pc1, pc2, pc3

**Task 10:**

Configure pc2 as DNS Server

* Install using “bind” package

Optional (Configure a PC2 as Master & PC3 as Slave DNS Server)

**Task 11:**

**Check whether the BaseOS, VM’s can be remote accessed from other PC, mobile using**

**SSH**

**VNC**

**Task 11:**

Configure PC1 as Web Server and File Server

Share File’s using File Server and check whether from client you are able to upload and download files

For FTP

Configure vsftpd/ sftp  Jailed if possible

Access via Filezilla

For Web server

Configure apache

→ Access using browser

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**PART-3**

**Task 8:**

Configure pc4 as Nagios/Zabbix server

Using Nagios/Zabbix server, monitor other PC’

monitor the load, CPU, Memory utilization of OS, web server, DNS Server and other PC’s

**PART-4**

Task 1:

Add 2 new hard disk on pc1 (VM)

Configure RAID

**PART-6**

Connect your Server to WAN(Internet) and LAN (Connect PC’s to LAN)

1) Connect your Server to the internet, make sure your server is accessible to & from the internet

Try to access the server from outside world (Internet)

2) Connect PC’s to LAN

Share internet to the PC’s in LAN

PC’s in LAN need to be accessed from outside world (Internet)

**PART-7**

Configure PC1 as a mail Server

Install Squirrel Mail

**PART-8**

Install Latest Version of OpenOffice

Install VLC Media Player, Chrome