# Homework M6: FHS, Disks, Filesystems, and Archives

For a successful completion of the tasks it is enough use just one machine. In our case this could be for example the server (**Jupiter**) or any of the other two (either **Mars** or **Venus**). Or why not **a new one**?

Let's assume that the following list of tasks will be performed on a new stand-alone machine:

1. Create archive of **/etc** with **xz** utility and **measure** the **time** needed
2. Create archive of **/etc** with **gzip** utility using its **default** settings and **measure** the **time** needed
3. Create archive of **/etc** with **gzip** utility, but **force** it to use the **maximum** level of compression and measure the **time** needed
4. Compare the **size** of the **three** archive files created earlier (**list** their names and sizes)
5. Add **new 1GB disk** to the system
6. Partition the disk using **GPT**:
   1. **First** partition of type **Linux** and **100MB** in size;
   2. **Second** partition if type **Linux Swap** and **100MB** in size;
   3. **Third** partition of type **Linux** and **50MB** in size;
   4. **Fourth** partition of type **LVM** and **100MB** in size;
   5. **Fifth** and **sixth** partitions of type **LVM** and **300MB** in size;
7. **Create** folder **/addon** and subfolders (check bellow) to mount the new filesystems
8. Create **xfs** filesystem on the **first** partition, mount it at **/addon/xfs**, and include it in the **/etc/fstab**
9. Initialize the **swap** partition, **turn it on**, and include it in the **/etc/fstab** file
10. Create **ext4** filesystem on the **third** partition, mount it at **/addon/ext4**, and include it in the **/etc/fstab**
11. Create **PVs** on the **fourth**, **fifth**, and **sixth** partitions
12. Create new **VG** and include all **three PVs** created earlier
13. Create new **LV** with size **400MB**
14. Create **ext4** filesystem on the new **LV**, mount it at **/addon/lvm**, and include it in the **/etc/fstab**
15. Extend the **LV** to include all the space available on the **VG**
16. Extend the **LV's filesystem** to include all the available space
17. **Reboot** the system and **check** if everything with the new filesystems is okay (**list them**).

## Proof

Upload a document (txt, doc, docx, pdf) containing the commands that you executed in order to accomplish the above tasks.