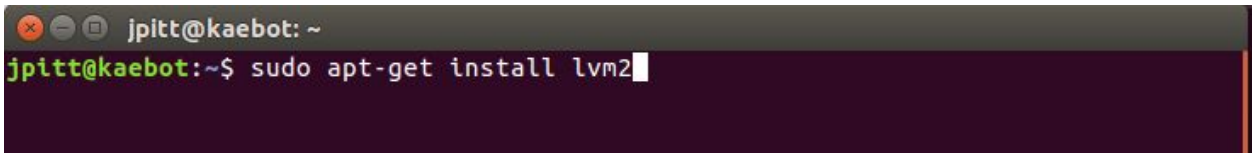
LVM initial hard drive setup procedure

As the WormBot has the capability of generating extremely large quantities of data it is advisable to install a dedicated hard drive in order to store the data files for the robot. While it is possible to configure the software to run off any type of drive, we strongly suggest installing the hard drive using LVM (Logical Volume Management) as this flexible system allows hard drives to be added or removed from the system flexibly while maintaining the robot's filesystem. Care should be taken with these steps as mistakes can lead to the destruction of data.

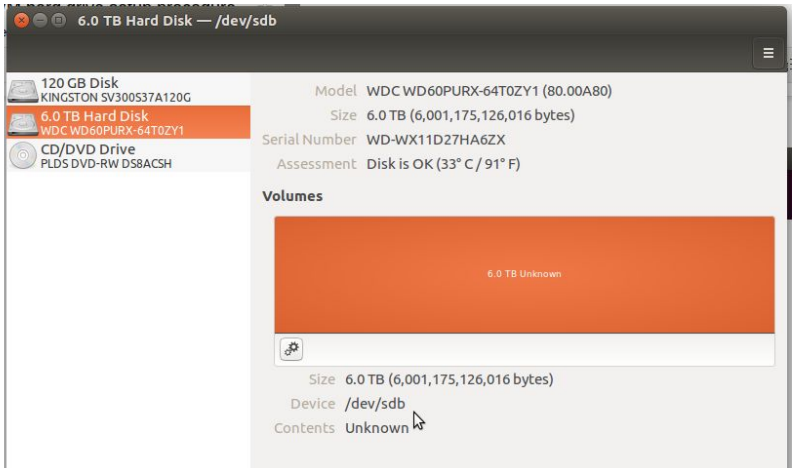
1. Physically install the new hard drive in your server (this tutorial assumes you have installed a nonremovable hard drive)

2. Install LVM on the system by opening a terminal and typing:
sudo apt-get install lvm2



3. Determine the device name of the newly installed hard drive. Go to the search icon and enter disks, then open the Ubuntu disk utility

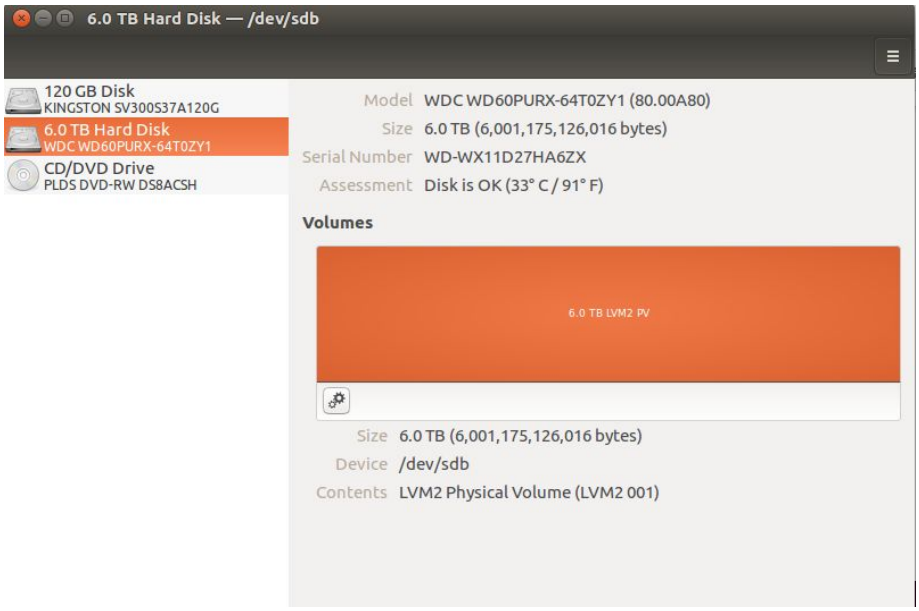
From the list of installed drives, identify the newly installed empty disk. In this example it is a 6TB drive that is named /dev/sdb, but you should use whatever name your new drive is called. **Be careful! If you use the wrong name you could destroy data.**



4. Partition the drive for a logical volume by opening a terminal and typing:
sudo pvcreate /dev/NAME_OF_YOUR_DRIVE_HERE

```
kaeberleinlab@kaeberleinlab-70A4003AUX:~$ sudo pvcreate /dev/sdb
  /run/lvm/lvmetad.socket: connect failed: No such file or directory
  WARNING: Failed to connect to lvmetad. Falling back to internal scanning.
  Physical volume "/dev/sdb" successfully created
kaeberleinlab@kaeberleinlab-70A4003AUX:~$
```

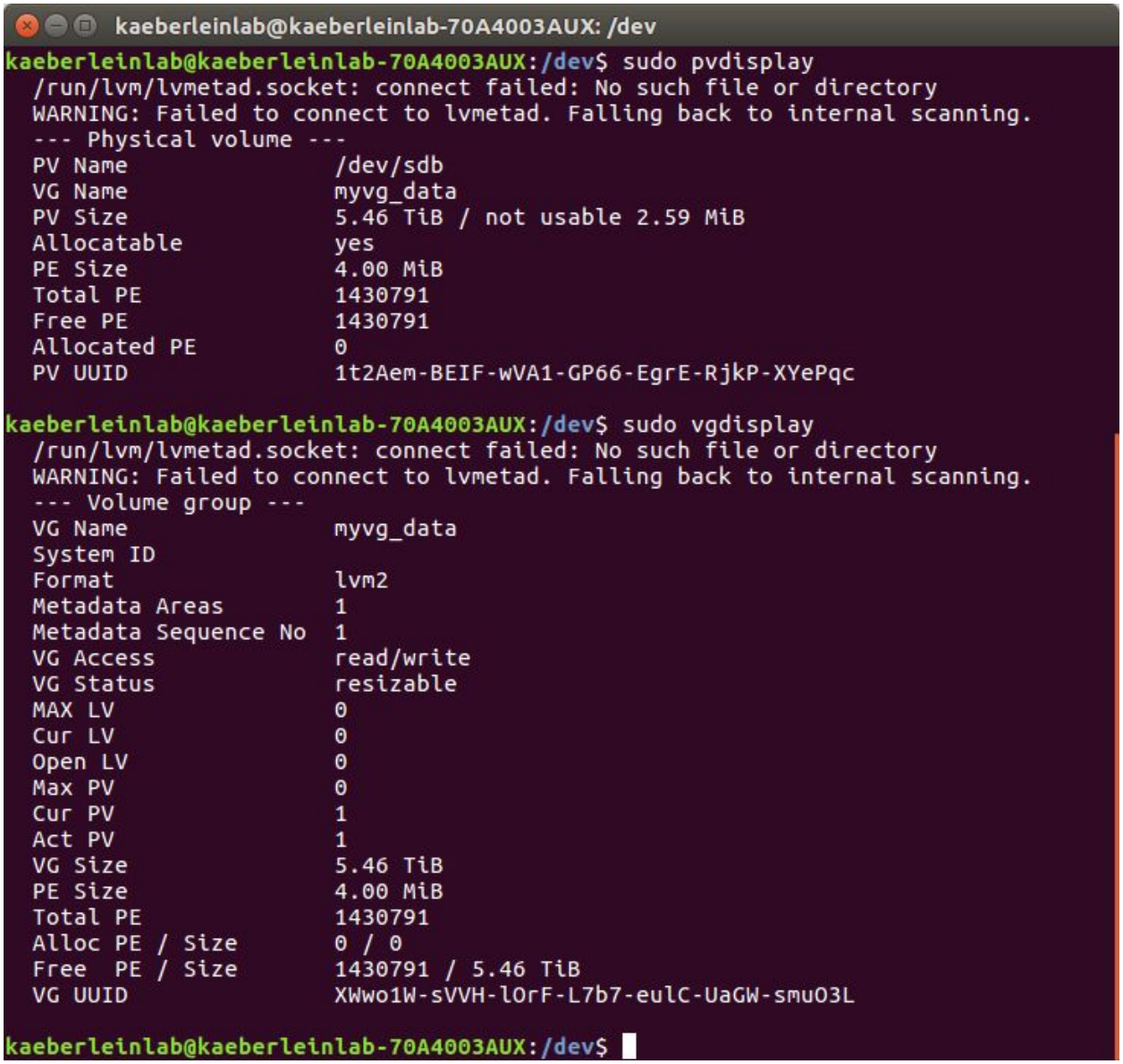
Verify that your drive has been partitioned by checking the Disks utility. The drive partition should now display LVM2



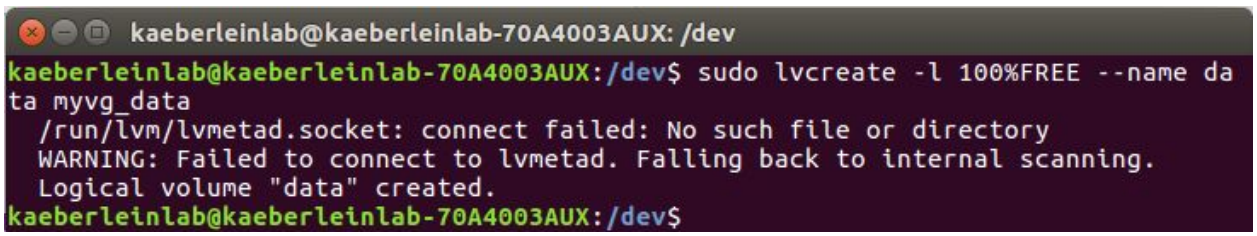
5. Create a new Volume group by opening a Terminal and typing:
sudo vgcreate myvg_data /dev/NAME_OF_YOUR_DRIVE_HERE

```
kaeberleinlab@kaeberleinlab-70A4003AUX:/dev$ sudo vgcreate myvg_data /dev/sdb
  /run/lvm/lvmetad.socket: connect failed: No such file or directory
  WARNING: Failed to connect to lvmetad. Falling back to internal scanning.
  Volume group "myvg_data" successfully created
kaeberleinlab@kaeberleinlab-70A4003AUX:/dev$
```

6. Verify the physical volume and volume group by opening a terminal and typing:
sudo pvdisplay
sudo vgdisplay

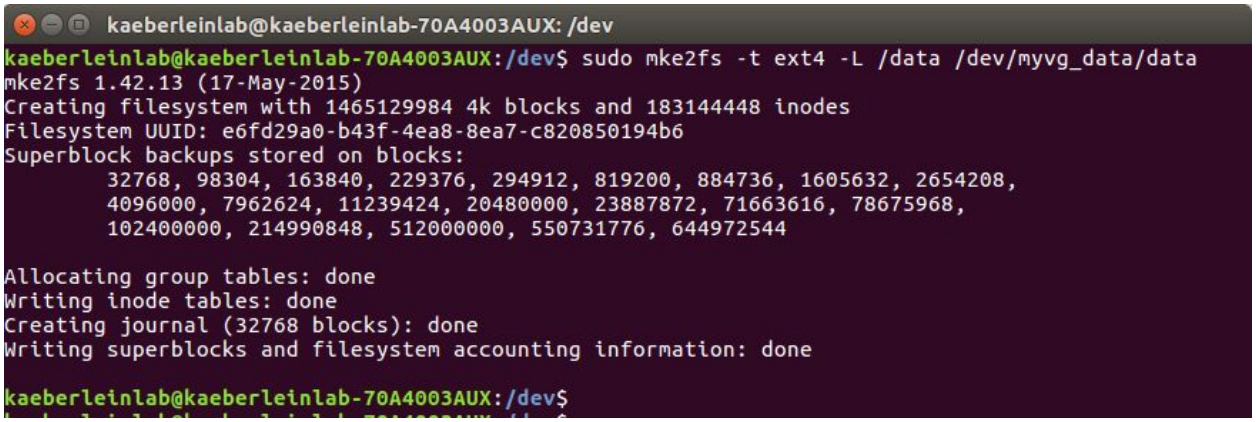


7. Create a new logical volume by opening a terminal and typing:
sudo lvcreate -l 100%FREE --name data myvg_data

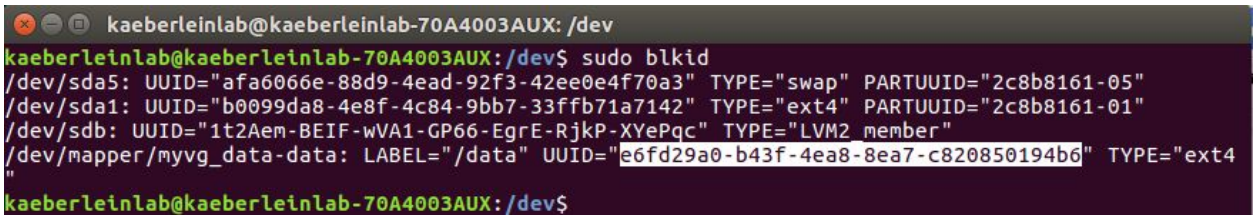


8. To create a filesystem in the new volume, open a terminal and type:
sudo mke2fs -t ext4 -O 64bit -L /data /dev/myvg_data/data

Note: -O 64bit was added to allow for filesystems larger than 16TB *rev 1.01



9. Identify the UUID of the new Logical volume by opening a terminal and typing:
sudo blkid



Highlight the UUID of the volume and right click the mouse and select copy

10. Make the drive mount when the system starts by editing the fstab file. Open a terminal and type:
sudo gedit /etc/fstab

Then add a new line at the bottom of the file containing your UUID that you just copied
UUID=PASTE_YOUR_UUID_HERE /wormbot ext4 errors=remount-ro 0 1

Save the edited fstab file.

11. To create a directory to mount the drive, open a terminal and type:
sudo mkdir /wormbot

12. Reboot the server by opening a terminal and typing:
sudo reboot