МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ

РОССИЙСКОЙ ФЕДЕРАЦИИ

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ АВТОНОМНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ

«САМАРСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ

УНИВЕРСИТЕТ ИМЕНИ АКАДЕМИКА С.П. КОРОЛЕВА»

Институт информатики и кибернетики

Кафедра геоинформатики и информационной безопасности

Отчёт по лабораторной работе №1

«VM and RAID»

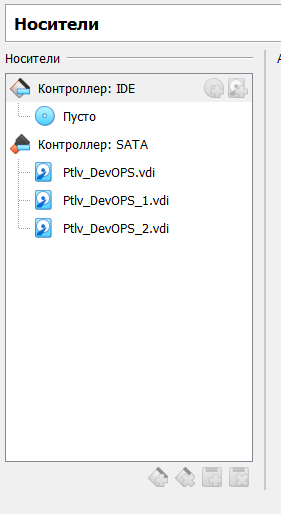
Выполнил: Путилов Г.Р.

Группа: 6412-100503D

Проверил: Авдеев Е.В.

Самара 2023

**First step:**   
 Create virtual machine with debian/ubuntu/centos or download preinstalled image (<https://www.osboxes.org/>). It should be withoug GUI.



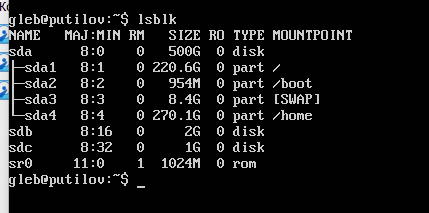
Picture 1 - Virtual machine with added disks.

**Second step:**  
 Set hostname = your surname.

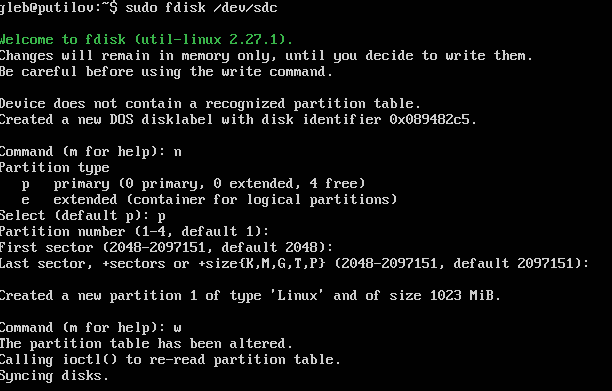
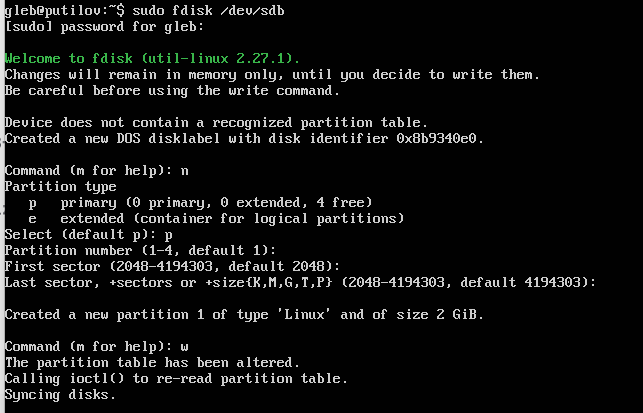


Picture 2 - Set hostname

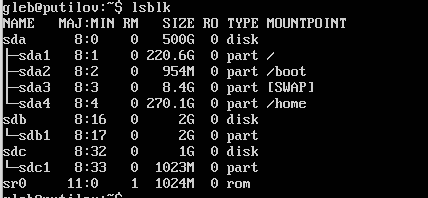
**Third step:**  
 Add simple raid1 to virtual machine: \*nix os system on 1-st hdd, 2d and 3d hdds are in raid1. 1 (with star). Only two hdds. Os system on raid1, based on this two hdd.



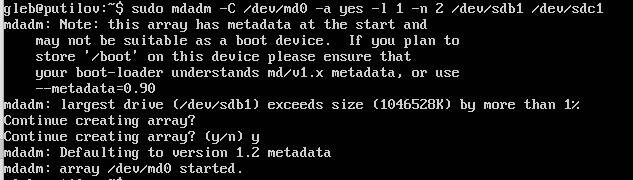
Picture 3 - Demonstration of connected sdb and sdc disks



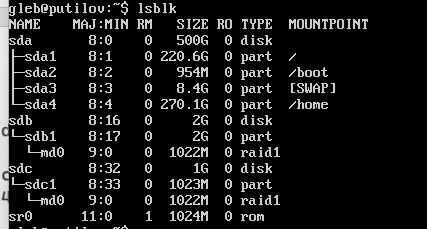
Picture 4 - Creating disk partitions on sdb and sdc



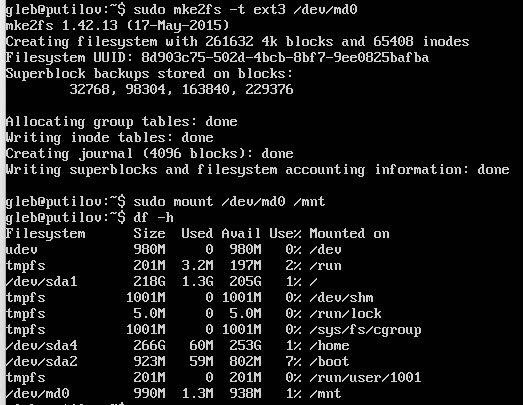
Picture 5 - Result after pic. 4



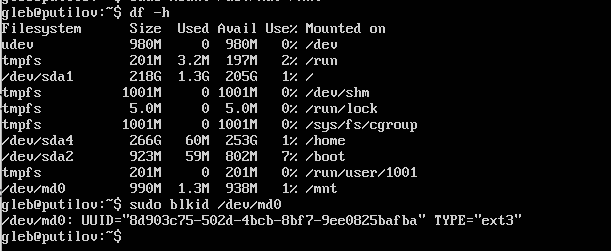
Picture 6 - Create array



Picture 7 - Result after pic. 4



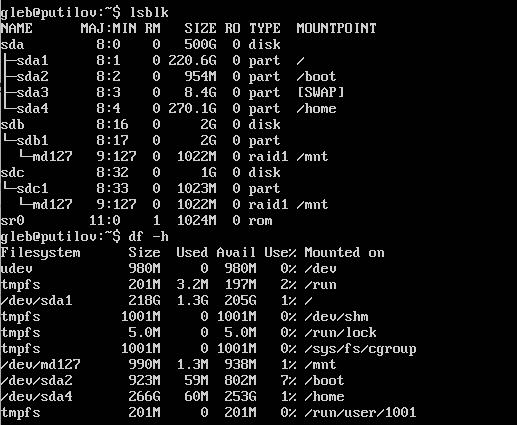
Picture 8 - Create filesystem and show result



Picture 9 - Show filesystem

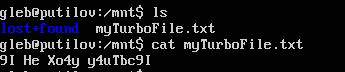


Picture 10 - Result of editing fstab



Picture 11 - After reboot

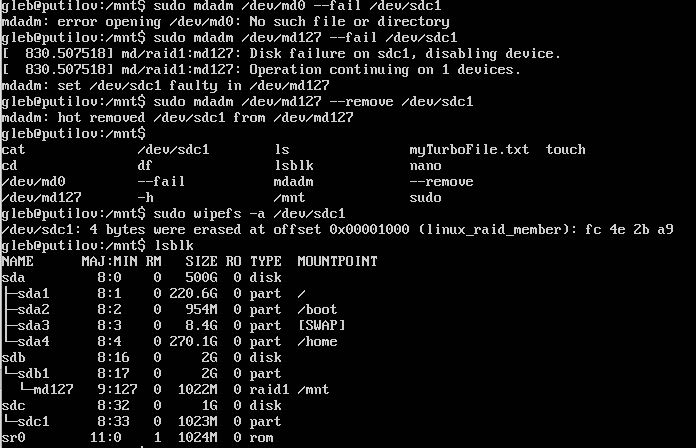
**Step fourth:**  
 Create file on raid1 file system. Turn off vm and remove one of the hhds from vm. Turn on vm. File should be accessible.



Picture 12 - Show created file



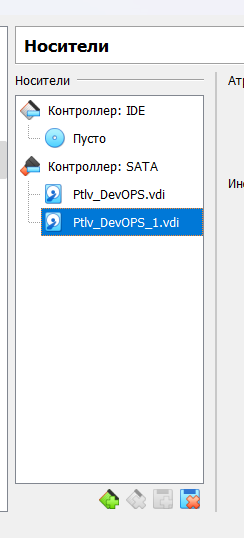
Picture 13 - Remove sdc1



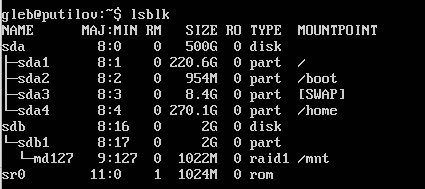
Picture 14 - Result after removing



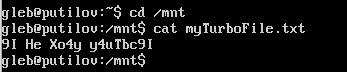
Picture 15 - Show file



Picture 16 - Remove disk

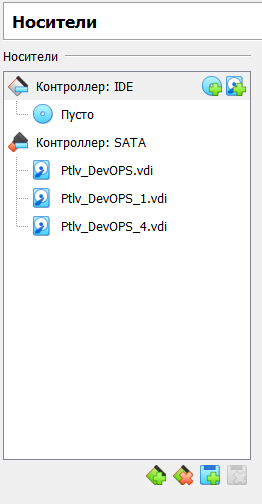


Picture 17 - Result after removing disk

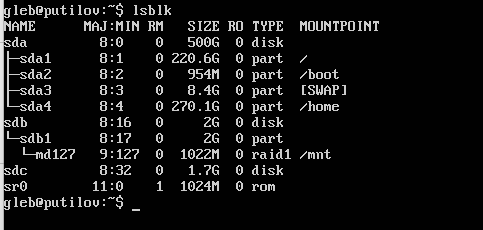


Picture 18 - Show file after removing disk

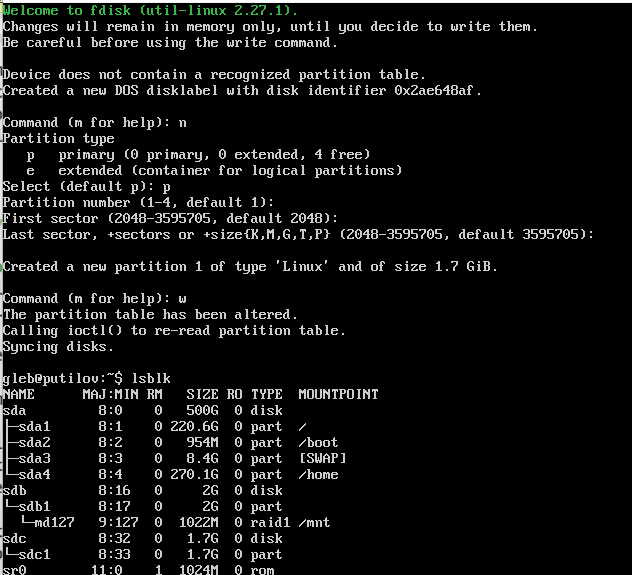
**Fifths step:**  
 Add new hdd and sync it to raid1.



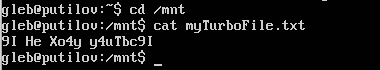
Picture 19 - Add new disk



Picture 20 - Show added disk

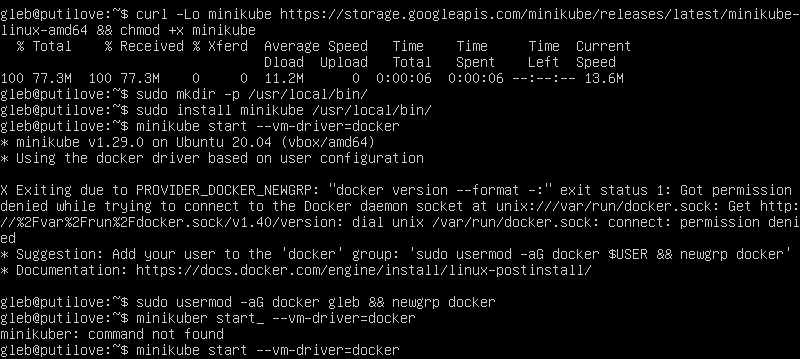


Picture 21 - Create disk partition



Picture 22 - Show file after all actions

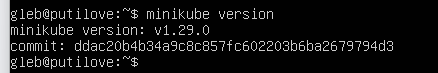
**Sixth step:**  
 Install and run local Kubernetes cluster with **minikube**



Picture 23 - Download and install minikube



Picture 24 - Show kubectl version

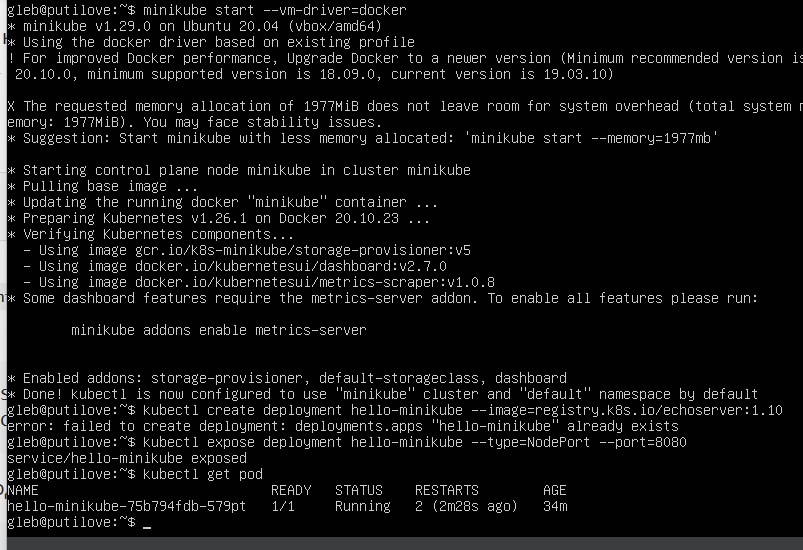


Picture 25 - Show minikube version

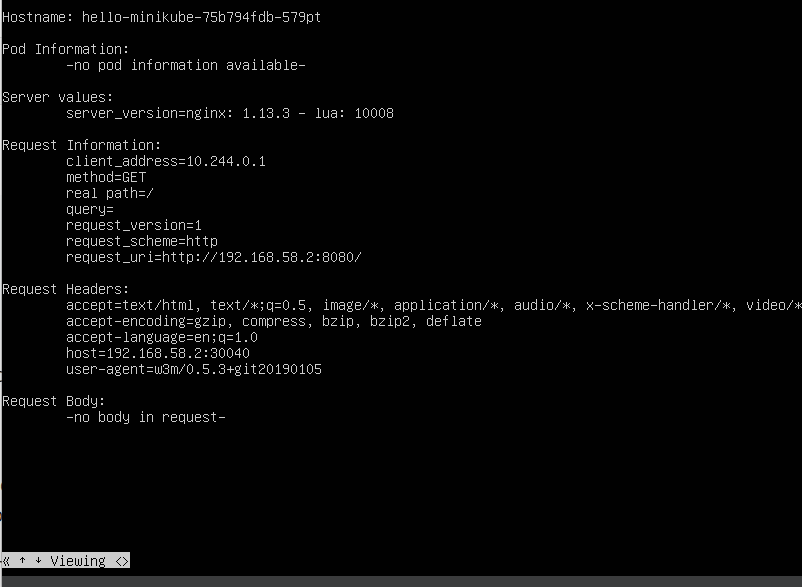


Picture 26 - Show dashboard (in w3m browser)

**Seventh step:**  
 Deploy hello-minikube app



Picture 27 -Deploy app



Picture 28 - Show app (in w3m browser)