# **Magnesium-Server**

bin noch mit der Einrichtung beschäftigt.

<hi #ffc90e>Hier soll definitiv die einzelnen Schritte beschrieben werden und was man anpassen/aufpassen muss. Muss nicht super detaiert sein, aber so, dass jemand "normales" es

Later on you would just have to copy the files from a gitea location

## Prerequsities

- a working computer
- USB thumb drive with at least 4GB of space (it will be formatted in the process)

## **Install Media Creation**

If you don't already have a boot drive ready, go to their website and download their latest stable .iso from there. From that you have to create a boot drive. Because you are most probably a windows user, download Etcher (also latest) and install it. It doesn't matter whether you use the portable or the installer version. The pros of the portable version are, that you can use the program shortly after you've downloaded it. Run the program, choose your prefered drive to install the boot-media onto and choose the Debian .iso you've downloaded earlier. Click "write" when everything is selected correctly. This process might take a while. Insert the USB-Drive with the installation-media into the future server, after the flashing process finished. While starting the Server, make sure to repeatedly hit "F12" or "entf" to get into the boot menu.

# Installation of Debian (RAID1)

Go through the installer with your desired configuration until you get choose the installation disk. At some point you will be asked to choose login data etc., choose the following:

- login: magnesium
- password: ramsey
- name of the computer: thingol

## **Preparing our Drives**

Choose to manually partition the disk.

artition disks	acbian		
he installer can guide you through partitio refer, you can do it manually. With guided ustomise the results. I you choose guided partitioning for an ent Partitioning method:	ning a disk (using differ partitioning you will stil ire disk, you will next be	ent standard scher I have a chance late e asked which disk	nes) or, if you er to review and should be used.
Suided - use entire disk			
Guided - use entire disk and set up LVM			
Guided - use entire disk and set up encrypt	ed LVM		
Manual			
*			

Next choose the first of your future RAID Drives in the installer to create an empty partition. Repeat the process for the second drive.

Odebian
Partition disks
This is an overview of your currently configured parbtions and mount points. Select a parbtion to modify its settings (file system, mount point, etc.), a free space to create parbtions, or a device to initialize its parbtion table.
Guided partitioning Configure software RAID Configure the Logical Volume Manager Configure encrypted volumes Configure iSCSI volumes
> prilog 17.2 GB PREE SPACE   SCSI1 (0,1,0) (sdb) - 17.2 GB VMware Virtual disk SCSI1 (0,2,0) (sdc) - 107.4 GB VMware Virtual disk   SCSI1 (0,3,0) (sdd) - 107.4 GB VMware Virtual disk SCSI1 (0,3,0) (sdd) - 107.4 GB VMware Virtual disk
Undo changes to partitions k Finish partitioning and write changes to disk
Screenshot Help Go Back Continue

Now choose to configure software RAID on the screen and confirm your two partitioned drives. The screen should look like this:

		Ode	ebian		
Partition di	sks				
Before RAII cannot be When RAID are allowe these disk	D can be configured undone. is configured, no a d. Please convince s.	, the changes have to dditional changes to t yourself that you are s	be written to the st he partitions in the satisfied with the co	torage devices. T disks containing urrent partitionin	hese changes physical volumes g scheme in
The partition SCSI1 (0,0 SCSI1 (0,1 Write the cl	on tables of the foll 0,0) (sda) 1,0) (sdb) hanges to the storage	owing devices are cha devices and configure RA	nged:		
○ No ● Yes					
				*	
Screensho	t				Continue

Continue and choose to create a **MD device**. Select **RAID** on the next screen. You will be asked for the following **drive configurations**:

- Number of active devices: 2
- Number of spare drives: 0
- Active drives: the two drives you partitioned earlier

Confirm your configuration and finish disk partitioning.

### **LVM Configuration**

Next up we have to configure the Logical Volume Manager. For that select it from the menu and continue:

Partit	tition disks	
This i (file :	is is an overview of your currently configured partitions and mount points. S is system, mount point, etc.), a free space to create partitions, or a device f	elect a partition to modify its settings to initialize its partition table.
G	Guided partitioning	
C	Configure software RAID	
6	Configure the Logical Volume Manager	
C	Configure encrypted volumes	
C	Configure iSCSI volumes	
	DAID1 deutes #A 17.3 CD Extension DAID deutes	
~ 10	NADI device #0 - 17.2 GB Software Nub device	
~ 5(	SCSI1 (0.0.0) (sda) - 17.2 GB VMware Virtual disk	
	> #1 primary 17.2 GB K raid	
<b>⊽</b> 50	SCSI1 (0,1,0) (sdb) - 17.2 G8 VMware Virtual disk	
	> #1 primary 17.2 GB K raid	
50	SCSI1 (0,2,0) (sdc) - 107.4 GB VMware Virtual disk	
5	SCSI1 (0, 3, 0) (sdd) - 107.4 GB VMware Virtual disk	

Select **yes**, when asked to keep the current partition layout and continue. Now we are creating a new **volume group**:

Ode	bian		
Partition disks			
Summary of current LVM configuration: Free Physical Volumes: 0 Used Physical Volumes: 0 Volume Groups: 0 Legical Volumes: 0 ( <i>VM configuration action</i> :			
Display configuration details			
Finish k			
		[ collection]	Carath

Choose a name for the volume group afterwards and continue. On the next screen you will select the previously created MD device.

update: 2021/03/01 groups:mg:private:resonatoren:mg:magnesium-server:start https://iqwiki.iqo.uni-hannover.de/doku.php?id=groups:mg:private:resonatoren:mg:magnesium-server:start&rev=1614596669 11:04

Odebia	n
Partition disks	
Summary of current LVM configuration: Free Physical Volumes: 0 Used Physical Volumes: 0 Volume Groups: 0 Logical Volumes: 0 LVM configuration action:	
Display configuration details	
Finish	
Screenshot Help	Go Back Continue

Confirm to keep the partition layout afterwards. Next create the first logical volume and name it root.



Choose about 900G as the Volume Size. It might vary depending on your choosen hdd. Calcute your need beforehand.

rtition disks					
ease enter the size of Globytes), 10M (Megab	the new logical v (tes), 10G (Gigab	volume. The siz ytes), 10T (Ter	re may be enter abytes). The de	ed in the follow fault unit is Meg	ing formats: 10K abytes.
ogical volume size:					
6G					
				*	

Repeat the steps for the second LV and name it **swap** with 4G as the volume size. Confirm and finish afterwards.

Odebian	
Partition disks	
Summary of current LVM configuration: Free Physical Volumes: 0 Used Physical Volumes: 1 Volume Groups: 1 Logical Volumes: 2 LVM configuration action:	
Display configuration details Create logical volume Delete logical volume Finish	
	*
Screenshot Help	Go Back Continue

Next up, format root volume. Select the root volume that was created previously. Pay attention to the name next to the LV. During this installation it should be "LV root". Click continue.

	cicion e	lisks								
Th (fil	is is an o le syster	overviev n. mour	v of your cu nt point, etc	rrently config	ured p ce to c	partitions and mou create partitions.	unt points. Se or a device to	lect a parti initialize it	tion to modify s partition tabl	its settings le.
	Guided	l partit	tioning							
	Config	ure sol	ftware RAI	D						
	Config	ure the	e Logical V	olume Mana	ger					
	Config	ure en	crypted vo	lumes						
	config	ure iSC	51 volume	5						
		aaror	kan IV re	of - 10.0 68	Linen	device-manner	(linear)			
÷	LVM VC	i ggroc	:k-vg, LV ro	oot - 10.0 GB	Linu	device-mapper	(linear)			
v	LVM VG	i ggroc #1	ik-wg, LV ro ik-wg, LV sv	oot - 10.0 GB 10.0 GB wap_1 - 4.0 G	Linw i8 Lin	x device-mapper	(linear) er (linear)			
v	LVM VC > LVM VC >	ggroc #1 ggroc #1	ik-vg, LV ro ik-vg, LV sv	oot - 10.0 GB 10.0 GB wap_1 - 4.0 G 4.0 GB	Linw i8 Lin	x device-mapper ux device-mapp	(linear) er (linear)			
⊽ ⊽	LVM VG > LVM VG > RAID1 (	ggroc #1 ggroc #1 device	(k-vg, LV ro (k-vg, LV sv #0 - 17.2 (	oot - 10.0 GB 10.0 GB wap_1 - 4.0 G 4.0 GB 58 Software	Linw i8 Lin RAID	x device-mapper ux device-mapp device	(linear) er (linear)			
•	LVM VC > LVM VC > RAID1 C >	i ggroc #1 device #1	(k-vg, LV ro (k-vg, LV sv #0 - 17.2 (	oot - 10.0 GB 10.0 GB wap_1 - 4.0 G 4.0 GB 58 Software 17.2 GB	Linw i8 Lin RAID K	x device-mapper ux device-mapp device lvm	(linear) er (linear)			
•	LVM VO > LVM VO > RAID1 ( > SCSI1 (	5 ggrod #1 device #1 (0,0,0)	(k-wg, LV ro (k-wg, LV sv #0 - 17.2 ( (sda) - 17.2	oot - 10.0 GB 10.0 GB wap_1 - 4.0 G 4.0 GB 38 Software 17.2 GB 2 GB VMware	Linux i8 Lin RAID K Virt	x device-mapper ux device-mapp device Ivm ual disk	(linear) er (linear)			-
▼	LVM VC > IVM VC > RAID1 ( > SCSI1 ( >	5 ggrod #1 device #1 [0,0,0] #1	(k-wg, LV ro (k-wg, LV sv #0 - 17.2 ( (sda) - 17.2 primary	oot - 10.0 GB 10.0 GB wap_1 - 4.0 G 4.0 GB 58 Software 17.2 GB 2 GB VMware 17.2 GB	Linux i8 Lin RAID K Virt	x device-mapper ux device-mapp device Ivm ual disk raid	(linear) er (linear)			
~	LVM VC > LVM VC > RAID1 C > SCSI1 ( > SCSI1 (	5 ggrod #1 device #1 (0,0,0) #1 (0,1,0)	(k-wg, LV ro (k-wg, LV sv #0 - 17.2 ( (sda) - 17.3 primary (sdb) - 17.3	oot - 10.0 GB 10.0 GB wap_1 - 4.0 G 4.0 GB 58 Software 17.2 GB 2 GB VMware 17.2 GB 2 GB VMware	Linux RAID K Virt K	x device-mapper ux device-mapp device lvm ual disk raid ual disk	(linear) er (linear)			

Select "Do not use" for the "Use as" setting for the partition. Continue with Ext4 journaling file

#### system.



Next set the Mount point to "/ - root file system". Confirm with the option Done setting up the partition.





#### Choose to use it as swap area. It should look like this in the end:

	() de	bian		
artition disks				
ou are editing partition #1 of artition. artition settings:	LVM VG ggrock-vg, LV s	wap_1. No existing	file system was dete	cted in this
Jse as: swap area				
rase data on this partition				
one setting up the partition				
	*			
creenshot Help			Go Back	Continue

Finish and confirm your setup:



In the end choose to install Debian on the root partition.

#### Installing Software

After you are greeted with the desktop of our debian installation, start the terminal and update the system:

sudo apt update sudo apt upgrade

### **Config Files**

There are three basic steps to follow:

- 1. install Debian in RAID
- 2. install all the programs (Docker, Grafana, influxdb)
- 3. get the configuration and all the connections running

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