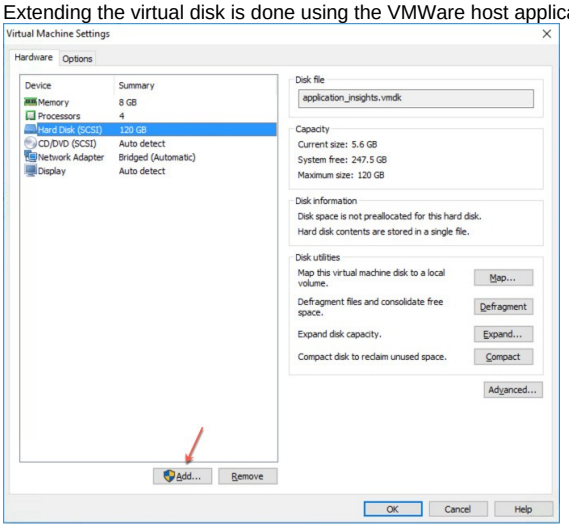
Extending Disk Space (Alma Linux)

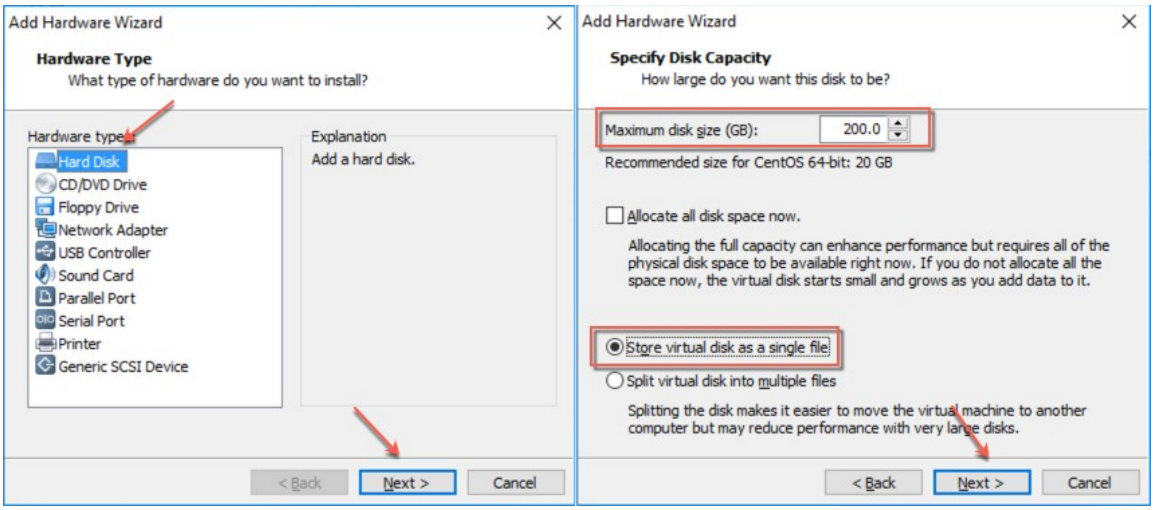
In order to provide more disk space on the iDNA appliance, the underlying disk, partition and logical volume all have to be extended.

> ⚠ *Please note that all virtual disks should be located on the same physical storage for best performance.*
>
> ***In contrast to the old CentOS appliance, it is now recommended to enlarge the existing VMWare disk, rather than adding new virtual disks.***

Extending the VMWare Disk

Extending the virtual disk is done using the VMWare host application. Here are examples for VMWare Workstation and vSphere:



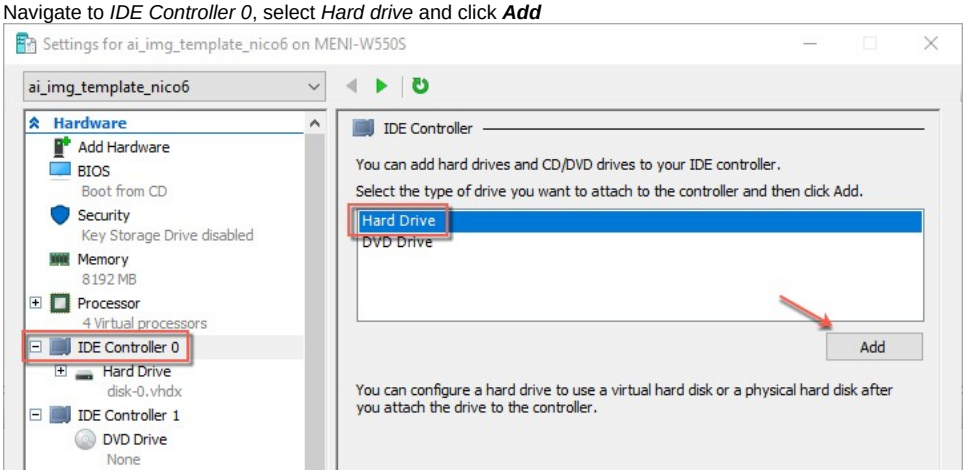


Please restart the virtual appliance after adding the new disk.

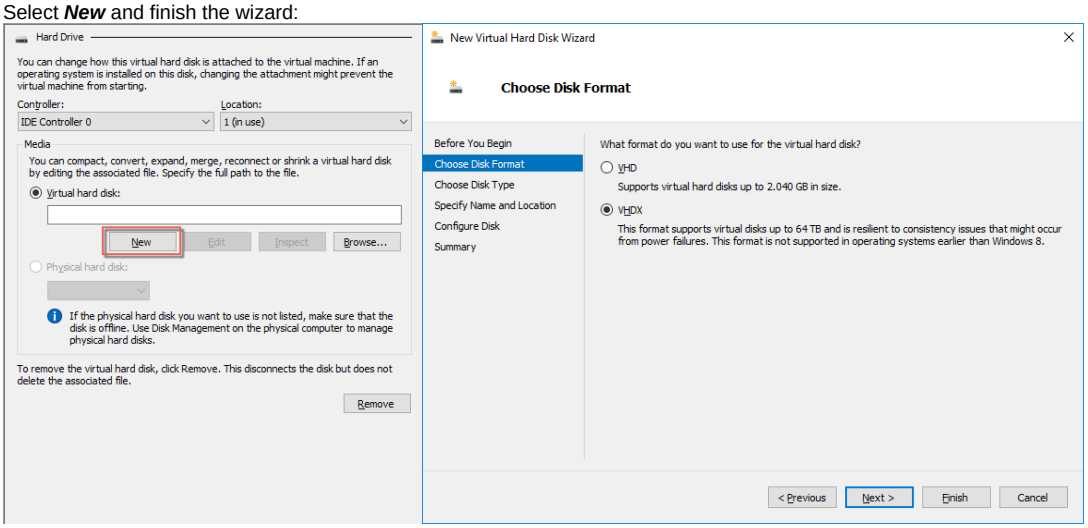
Extending the Hyper-V Disk

To extend the virtual disk, open the virtual machine properties and follow the steps below:

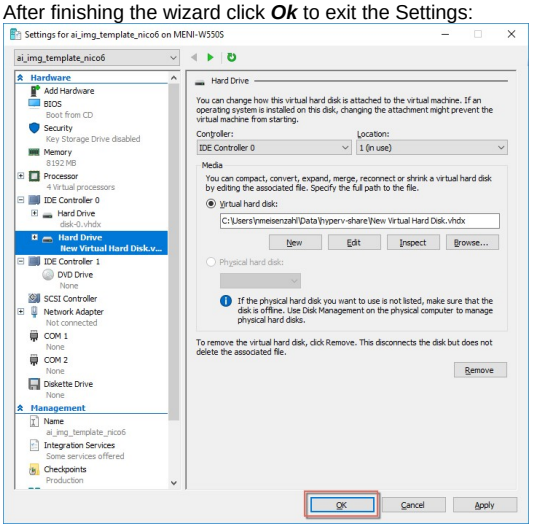
1. Navigate to *IDE Controller 0*, select *Hard drive* and click ***Add***



2. Select ***New*** and finish the wizard:



3. After finishing the wizard click ***Ok*** to exit the Settings:



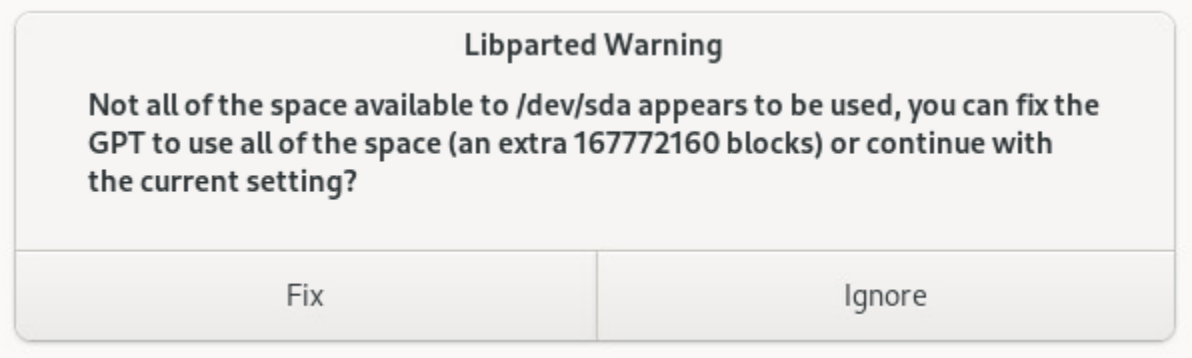
Please restart the virtual appliance after adding the new disk.

Enlarging the Partition on an Existing Disk in the Appliance

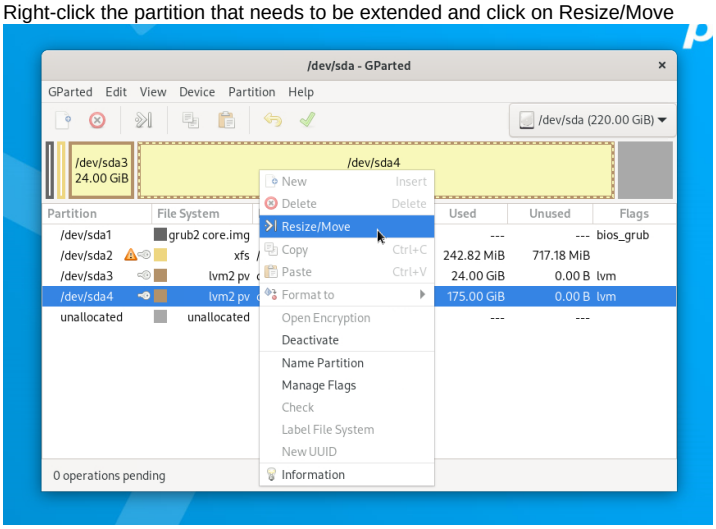
Perform the steps in this paragraph if an existing virtual disk was enlarged. If a new disk was added, please skip this chapter and continue with "Creating a Partition on a New Disk in the Appliance" instead.

The easiest way to enlarge a partition in the appliance is to use the installed partition manager **GParted**. Please launch it using the Applications or Activity menu (or using the shell command "gparted").

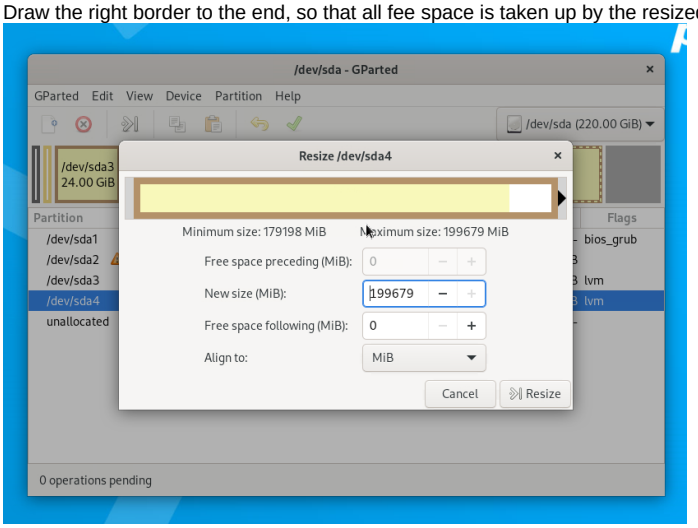
After starting GParted, you may be prompted with a message about whether the GPT partition should be resized to use all available space. Please confirm this change by clicking "Fix"!



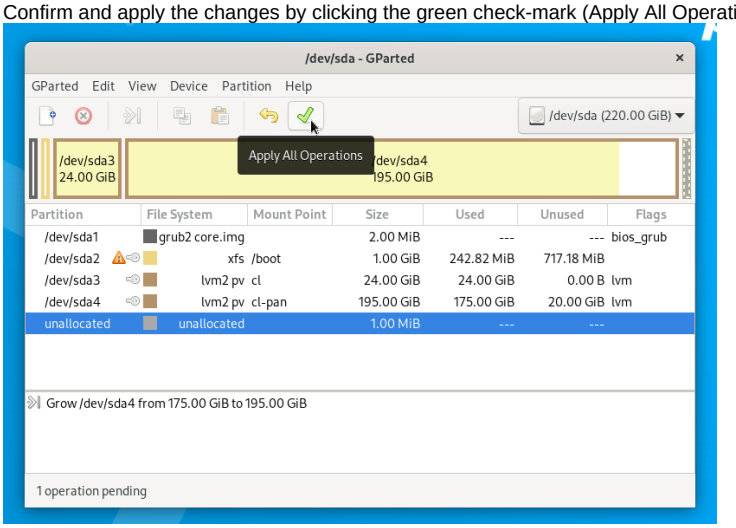
1. Right-click the partition that needs to be extended and click on Resize/Move



2. Draw the right border to the end, so that all fee space is taken up by the resized partition and click Resize



3. Confirm and apply the changes by clicking the green check-mark (Apply All Operations) in the tool bar

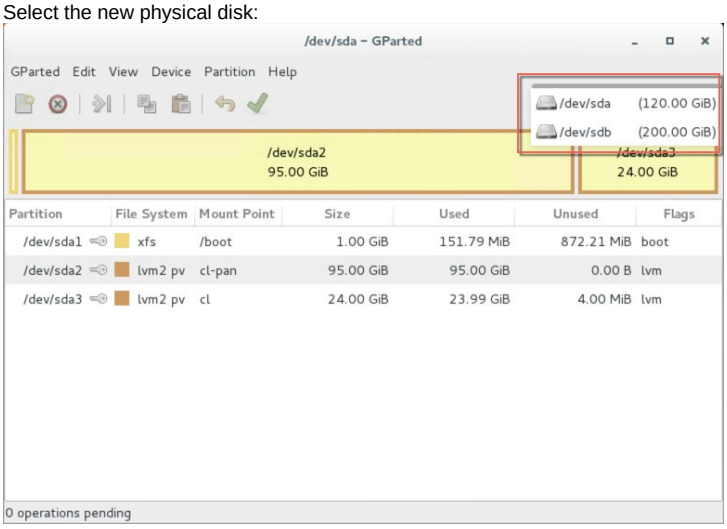


Creating a Partition on a New Disk in the Appliance

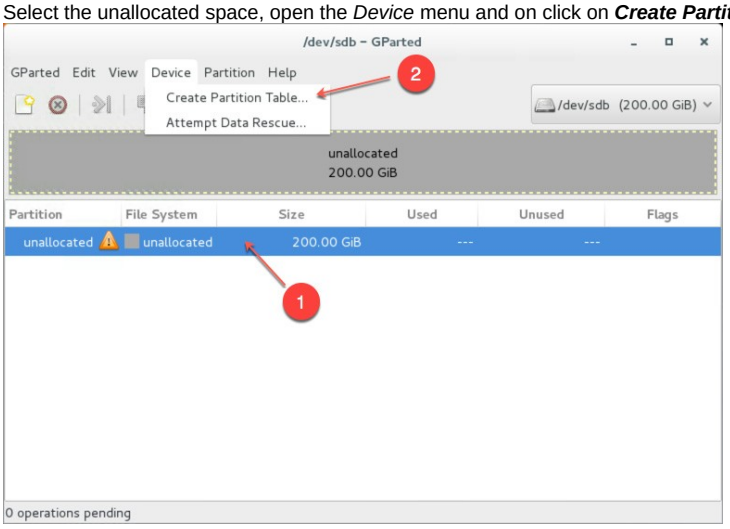
Perform the steps in this paragraph if a new virtual disk has been added to the system and its space should be made available to iDNA. If an existing disk has been enlarged, please continue with take a look at the chapter "Enlarging the Partition on an Existing Disk in the Appliance" instead.

The easiest way to enlarge a partition in the appliance is to use the installed partition manager **GParted**. Please launch it using the Applications or Activity menu (or using the shell command "gparted").

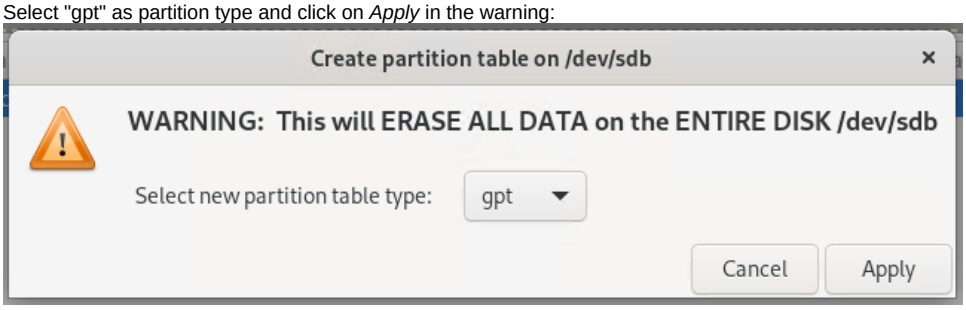
1. Select the new physical disk:



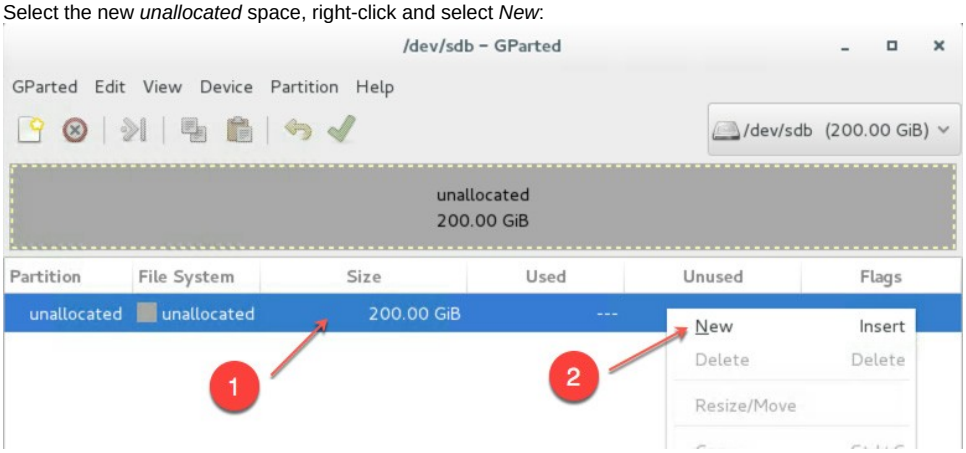
2. Select the unallocated space, open the *Device* menu and on click on ***Create Partition Table***:



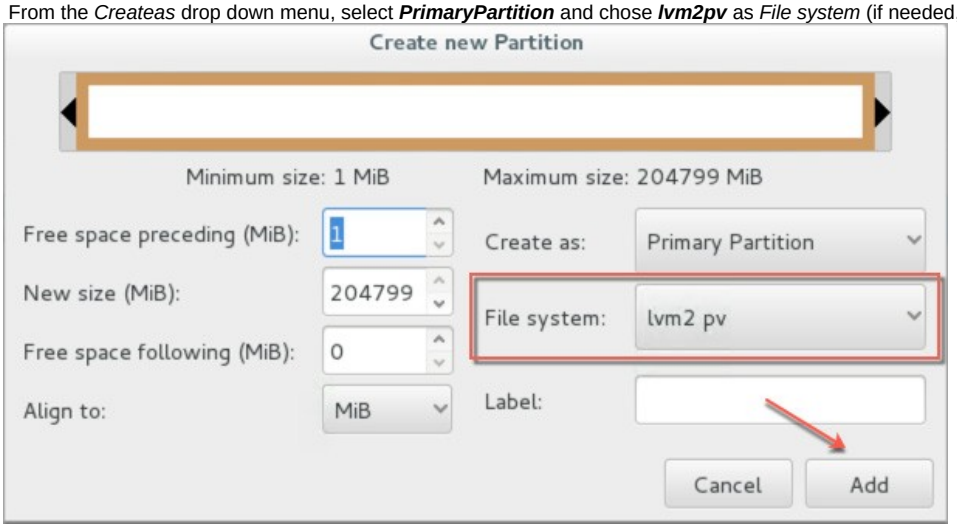
3. Select "gpt" as partition type and click on *Apply* in the warning:



4. Select the new *unallocated* space, right-click and select *New*:



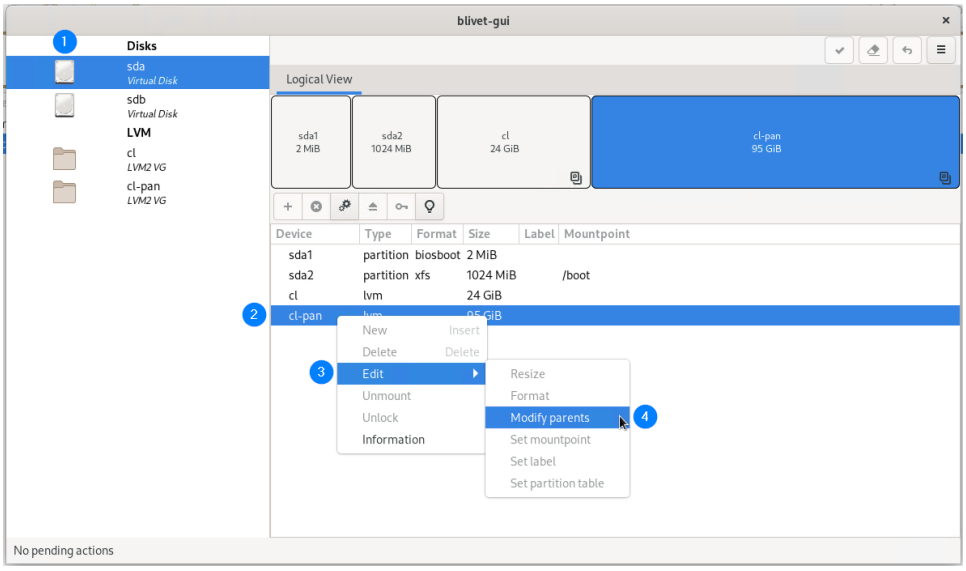
5. From the *Createas* drop down menu, select ***PrimaryPartition*** and chose ***lvm2pv*** as *File system* (if needed, a *Label* can be defined):



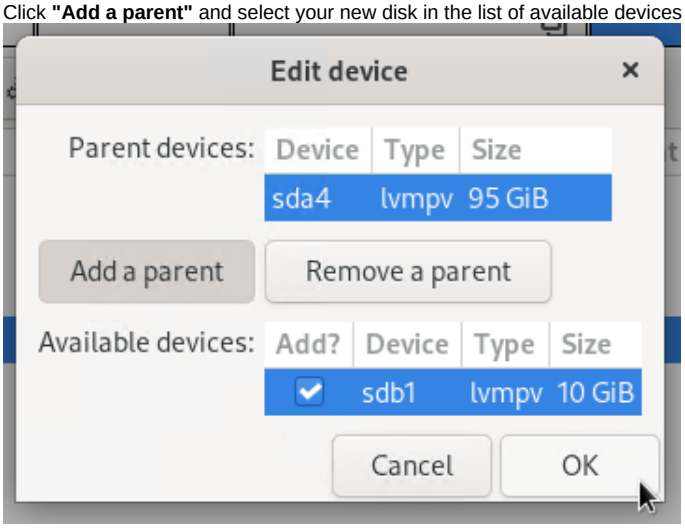
6. Save your changes by clicking the **apply button** - also on the popup message

> The new disk is now available to the operating system, but still needs to be made available to logical volumes.

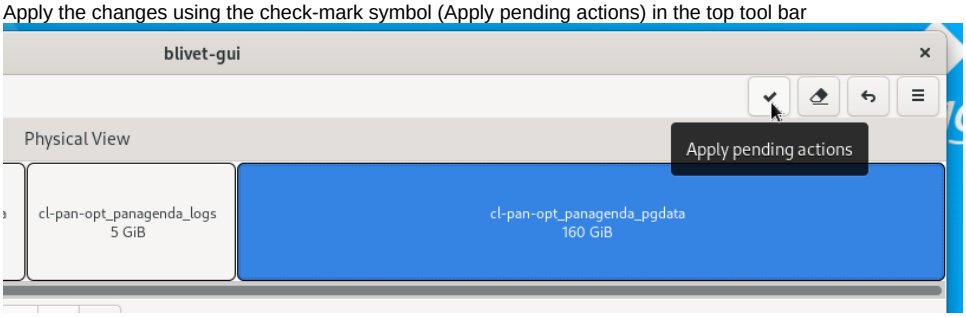
7. Start the "**LVM Manager"** (Logical Volumes Manager) from the Applications/Activities menu and select the original disk **"sda"** on the left hand navigation bar,
right-click **"cl-pan"** in the device list, select **"Edit"** and click **"Modify parents"**



8. Click **"Add a parent"** and select your new disk in the list of available devices and click OK.



9. Apply the changes using the check-mark symbol (Apply pending actions) in the top tool bar



You can leave the LVM Manager application open, as we will need it during the next steps.

Adding the new Disk Space to Logical Volume Groups

Now that new disk space is available to the operating system, we need to make it available to the appropriate volumes inside their volume groups.

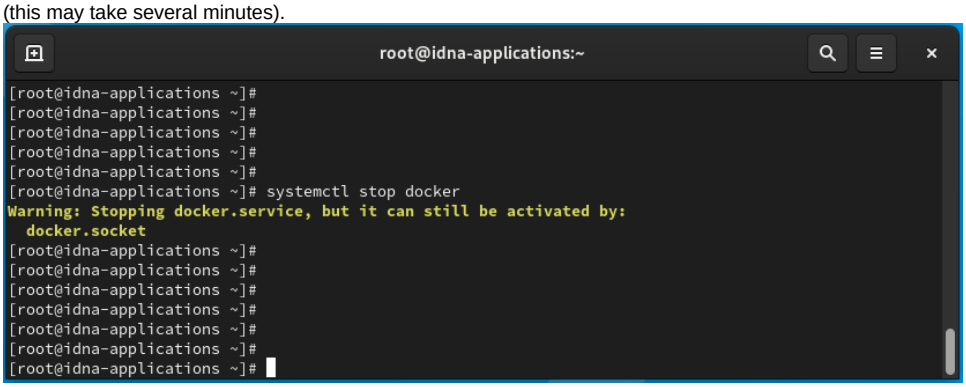
There are two main volumes that may need resizing:

- appdata (mounted to /opt/panagenda/appdata): mainly storage for DB design export files (DXL)
- pgdata (mounted to /opt/panagenda/pgdata): storage for Postgres database files

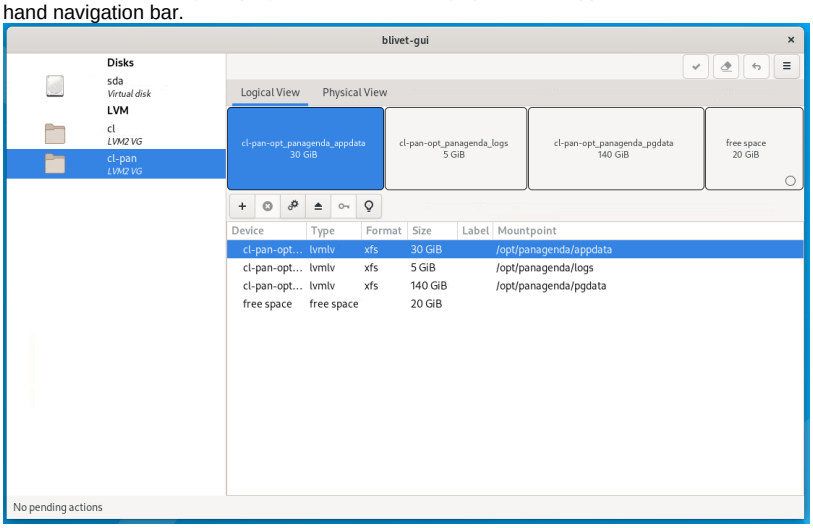
In this guide we will be using **"pgdata"** as an example, since it's the most likely volume that may need resizing. Whenever referred to the volume "pgdata", please look for the mountpoint "/opt/panagenda/pgdata" or the device name "cl-pan-opt_panagenda_pgdata".

> **Stop iDNA Before Proceeding**
>
> In order to resize a volume, the volume needs to be unmounted. It is critical to stop iDNA before unmounting volumes!

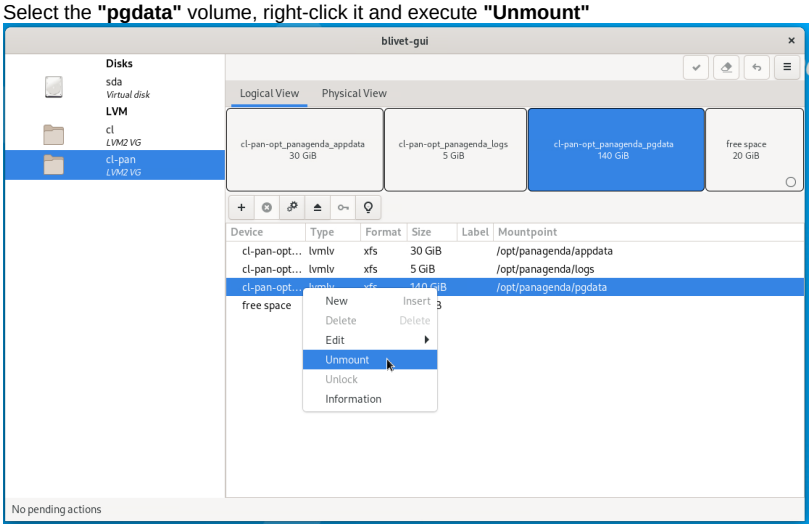
1. Start a **"Terminal"** from the Applications/Activities menu, execute the command **"systemctl stop docker"** and wait for the command to finish (this may take several minutes).



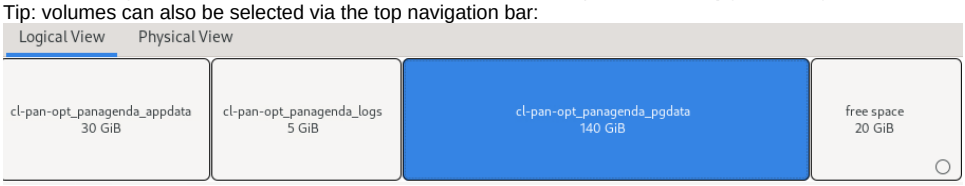
2. Start the "**LVM Manager"** (Logical Volumes Manager) from the Applications/Activities menu and select the volume group **"cl-pan"** on the left hand navigation bar.



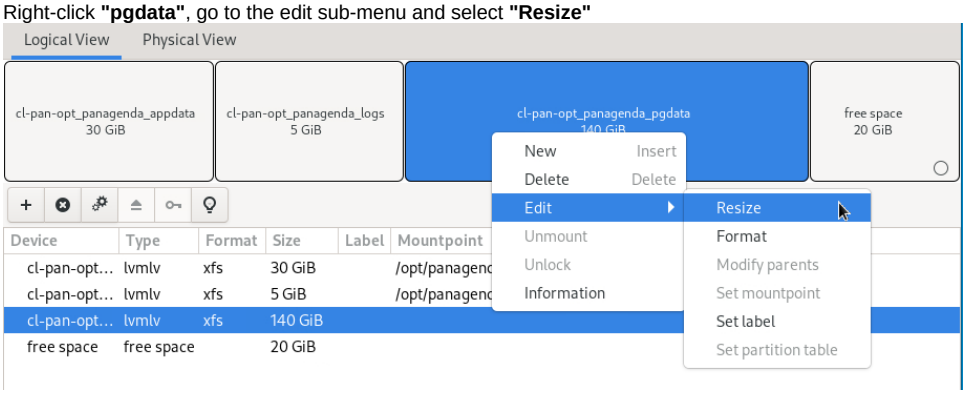
3. Select the **"pgdata"** volume, right-click it and execute **"Unmount"**



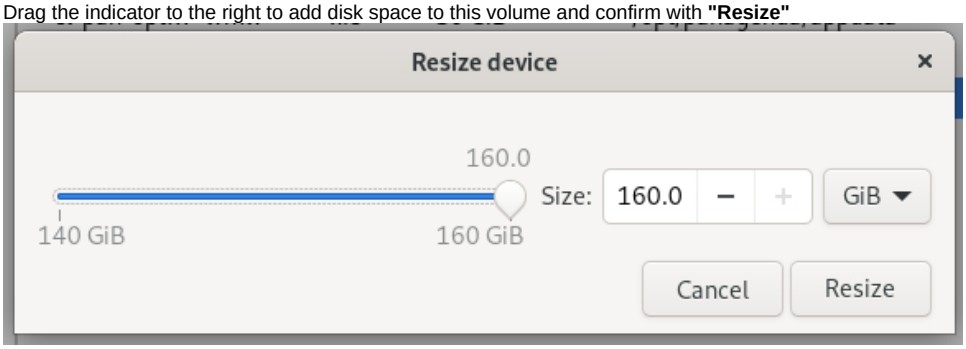
4. The unmount process will reset the selection in the device list, so please select **"pgadata"** again.
Tip: volumes can also be selected via the top navigation bar:



5. Right-click **"pgdata"**, go to the edit sub-menu and select **"Resize"**

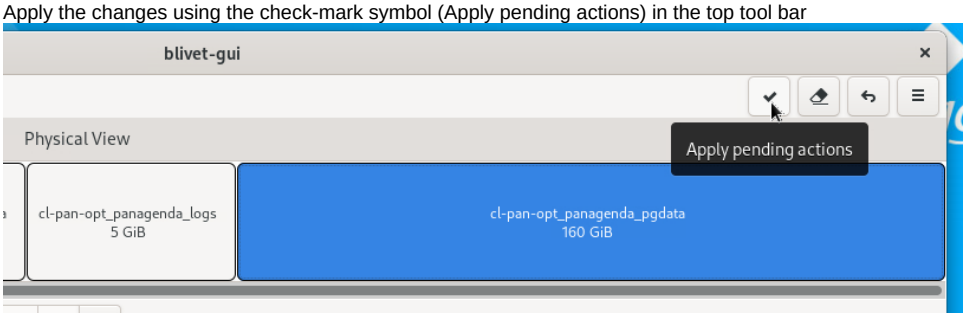


6. Drag the indicator to the right to add disk space to this volume and confirm with **"Resize"**

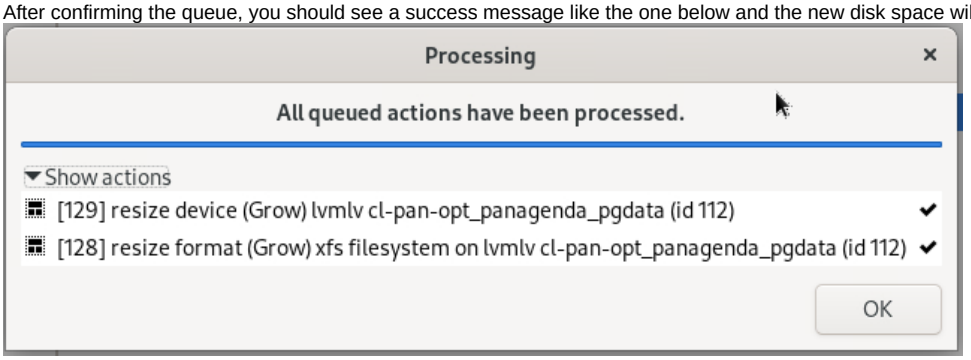


Note: even though were are adding all disk space to one volume in this example, the new available disk space may be divided between multiple volumes. For more information on calculating disk space requirements, please refer to the **Setup Guide**.

7. Apply the changes using the check-mark symbol (Apply pending actions) in the top tool bar



8. After confirming the queue, you should see a success message like the one below and the new disk space will now be available to iDNA.



9. Depending on the size of the environment, the **"appdata"** partition may have to be resized as well. If that should be the case, please repeat the actions in steps 3 to 8 for this partition as well.
A likely reason for the "appdata" partition needing resizing as well is if you have a large environment with a lot of applications. Please see the Virtual Hardware section in System Requirements for partition sizing recommendations.

10. To complete the changes, we need to start iDNA Applications again. Since one or more partitions might be unmounted at this point, the easiest way to do this is execute the command **"reboot"** in the command line.