



ARCH LINUX INSTALLATION

1. COMMAND CHECKLIST FOR INSTALLATION ON VIRTUALBOX

- Ping www.google.com**
 - The ping command allows a person to test their internet connection. Throughout the installation you'll use Ping such as for testing the connection prior to enabling dhcpd service.
- cfdisk**
 - This command enables you to edit the partition table. As you see in the video above, you can create new or delete partitions quickly. You have the ability to allocate memory (in MB), create primary and logical partitions.
- mkfs.ext4 /dev/sda1**
 - After writing the partition table, you'll create an actual file system. The command mkfs translates to make file system. The "ext4" refers to the type of file system. Of all the file system types, including ext2 and ext3, your best bet is ext4. When you create the file system, write it to the correct partitions such as the /dev/sda1.
- mkswap /dev/sda2**
 - The command "mkswap" stands for make swap. After creating a partition for swap, you must make swap and then turn it on with the "swapon" command.
- mount /dev/sda1 /mnt**
 - After creating a file system and swap, mount the partitions to /mnt.
- mkdir /mnt/home**
 - This command creates a home directory. The "mkdir" obviously stands for make directory.
- mount /dev/sda1 /mnt/home**
 - Finally mount the partition to the home directory with the above command.
- vi /etc/pacman.d/mirrorlist**
 - Before moving forward and installing the base arch system, you must edit the mirror list. Depending on your preferences, delete the individual lines with mirror locations with the "dd" function or a "d2". When you press "d" and a number afterwards, it deletes the number of lines you include. Once you finish editing, exit the mirror list by typing ":wq!".
- pacstrap /mnt base base-devel**
 - This attaches and installs the base system for Arch.

- **genfstab /mnt >> /mnt/etc/fstab**
 - This creates or generates an fstab file. The fstab (file system tab) dictates how disk partitions and file systems mount on devices.
- **arch-chroot /mnt**
 - The command stands for “change root”.
- **passwd**
 - Create a password for root with this command.
- **nano /etc/locale.gen**
 - Nano is the text editor. In this instance you can edit the local.gen file in /etc (everything configurable) to uncomment (remove #'s) from the lines of the locations you want your computer to run on. For example, I uncomment the “en-us” lines for the United States.
- **locale-gen**
 - The “locale-gen” command generates the locale information for date and time.
- **In -s /usr/share/zoneinfo/America/New_York /etc/localtime**
 - This line sets the local time zone. Change it to whatever region you require.
- **echo vbox > /etc/hostname**
 - This sets the host name for the system.
- **pacman -S grub-bios**
 - This installs grub as the boot loader. For a full arch install, I would choose syslinux over grub. Syslinux does not work in VirtualBox for arch.
- **grub-install /dev/sda**
 - This installs grub to the partition table.
- **mkinitcpio -p linux**
 - This creates an image of the initramfs.
- **grub-mkconfig -o /boot/grub/grub.cfg**
 - The command creates a grub.cfg file.
- **umount /mnt/home and umount /mnt**
 - Before performing these commands, exit out of /mnt back to root user. After unmounting everything, reboot the system.
- **dhcpcd and systemctl enable dhcpcd**
 - You must install and enable dhcpcd services to configure a network and connect to the internet.
- **shutdown -P -h now**

- This is a direct shutdown of the arch without closing the virtual machine. Once shutdown, remove the attached ISO image from the storage section of the VM settings.
- **nano /etc/pacman.conf**
 - Once you restart the system, edit the pacman.conf file and uncomment the mirrorlist repositories with "multilib".
 - **pacman -Syy**
 - This command updates the entire system after uncommenting the mirror list.
 - **pacman -S alsa-utils**
 - This command installs the sound.
 - **pacman -S xorg-server xorg-server-utils xorg-xinit**
 - This installs the X server for a GUI to run properly.
 - **pacman -S virtualbox-guest-utils**
 - This installs and sets up the guest additions necessary for VirtualBox.
 - **modprobe -a vboxguest vboxsf vboxvideo**
 - You must install the VirtualBox kernel modules as well. After plugging in the above command, add the modules on separate lines in the /etc/modules-load.d/virtualbox.conf file with nano.
 - **pacman -S xorg-twm xorg-xclock xterm**
 - This installs the xorg-twm, xclock and xterm required for the X server.
 - **Startx**
 - This starts the GUI for the Server X. Type exit to leave the GUI.
 - **EDITOR=nano visudo**
 - Within this file uncomment the "%wheel ALL=(ALL) ALL" to grant editing access to all users you create.
 - **useradd -m -g users -G storage, power, wheel -s /bin/bash "username"**
 - This line creates a new user.
 - **passwd "username"**
 - Create a separate password for the new user you created. I would suggest writing down the passwords somewhere safe for the time being, especially if you have horrendous short term memory loss like myself. What did I just write? Or go with a typical Temp1000 password. You can never go wrong there.
 - **pacman -S kde**

- Once you create a user besides root, install a Graphical User Interface (GUI) of your own choice. I installed KDE. If you have the space, you can install multiple GUIs on one device, but that's more appropriate for a full Arch installation on a desktop or laptop.

□ **nano .xinitrc**

- Edit the .xinitrc file to uncomment the "start kde" line.

□ **systemctl enable kdm.service and start services**

- Depending on the GUI you install, the the Display Managers and services vary. The KDE corresponding display manager is KDM. To access KDE, you must enable and start the services by entering "systemctl enable kdm or kdm.service" and "systemctl start kdm". If KDM starts correctly, it should take you directly to the GUI.