

Arch Linux VM Installation
Project for CYB 3353-System Administration
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Purpose

The Purpose of this guide is to document the steps necessary to install Arch Linux into a Virtual Machine (VM) into VMworkstation Pro. Starting from the settings necessary in VMworkstation, to the installation of Arch Linux in the VM, to

General Steps

- Installation of VM Workstation Pro and Starting Virtual Machine
 - Start by going to [VMware Docs](#), and scroll to the section titled “About VMware Workstation Pro” and click ‘here’ at the end of the section ([here](#) for ease).
 - After signing into, or creating, a Broadcom account we can download VMware Workstation Pro.
 - Don’t make any changes during the setup wizard and finish the installation of VMworkstation
 - Going to <https://archlinux.org/download/>, scroll down to the ‘United States’ Tab and select a URL that is closest to you, in this case I chose arizona.edu.
 - Once you choose a link, download the .iso file (Which is typically the first file that can be downloaded)
 - Go back to the VMware window and click ‘Create a new Virtual Machine’ to open ‘New Virtual Machine Wizard’ click ‘Next’
 - Click the ‘Installer disc image file (iso):’ option then ‘Browse’ and select the .iso file you just downloaded and click ‘Next’
 - Click the ‘Linux’ option and then select ‘Other Linux 6.x kernel 64-bit’ in the Version dropdown window, click ‘Next’
 - Name your virtual machine whatever you want, I chose ArchLinux, click ‘Next’
 - Change “Maximum disk size (GB):” to 20, click ‘Next’
 - Click “Customize Hardware...”, change the amount of memory to 2BG and under the Processors tab change “Number of cores per processor.” to 2, click close and Finish
 - The Virtual Machine is ready to be booted
- Installation of ArchLinux
 - Once the VM is booted select “Arch Linux install medium” or let the timer run to 0, both will work
 - Once you let the VM do it’s thing, you will have a terminal in front of you (root@archiso ~ #)
 - First we will have to check if we are connected to some type of network, that can be done with ‘ip addr show’
 - If you are connected to some sort of WiFi you will have to manually connect to a network, if you are connected to Ethernet you should be automatically connected

- **To connect to Wifi**
 - For those not on the ethernet you will have to use the command `iwctl` to start the process
 - Once connected to `iwctl` type `'device list'` to identify the device you are going to use
 - Scan for networks with the following command `'station device name scan'`
 - We then have to show a list of available networks to connect to with the command `'station devicename get-networks'`
 - Obtain your SSID from that information and connect to the desired network with the command `'station devicename connect SSID'`
 - After that type `exit` to the command line and use `'ping google.com'` to see if your connected to the network
- Once we are connected to WiFi we can start the installation of Arch Linux with the command `'archinstall'`
- Using your arrow keys, scroll down to 'Mirrors' and press enter, select 'Mirror regions'. Once the list of countries is showing type `'/United States'` and press enter
- Each region will be checked, this might take a minute.
- Once finished, select Back and go down to "Disk configuration", select 'Partitioning' and then select 'Use a best-effort default partition layout'
- Select "VMware, VMware Virtual S" (that being the 20 GB we gave the VM earlier)
- Select 'ext4', since filesystem tends to be a good general use filesystem in arch linux, after that select 'Back'
- Scroll down and select "Root Password", enter whatever password you like
- Select "User Account" and then 'Add a user'
- You then should type your name and create a password and make your account a 'Super user', after create two more account named 'justin' and 'codi' with the password 'GraceHopper1906' and make them super users as well
- Select 'Save and Exit'
- Select 'Profile' then select 'Type', and then 'Desktop'
- During my installation I chose 'Gnome' and will be proceeding so, once you choose a Desktop Environment select 'Back'
- Scroll down and select "Network configuration", select 'Copy ISO...'
- After that we can start the installation of Arch Linux by selecting 'Install'
- Press enter and wait for ArchLinux to install
- Once installation is done we will only see a terminal, since there is no Desktop Environment setup yet
- **The Setup of The Desktop Environment, Shells, and other resources**
 - First we have to make sure that powershell is installed, to make it easier we are just going to install it again. That being done with `"pacman -S openssh"`, sudo in front if needed
 - After we were required to download another alternative shell, we chose zsh. That command being `"pacman -S zsh"`

- After downloading zsh we now have to assign zsh to the users with the command 'chsh -s /bin/zsh *username*'
- After assigning both shells we have to download git and an AUR helper, that being yay. We can download git with 'pacman -S git' and then the command 'git clone <https://aur.archlinux.org/yay.git>'
- After we finish we can reboot Arch Linux with the command 'reboot', if the error "Running in chroot, ignoring request" if that pops up type 'Exit' and then retry
- After rebooting the login screen for Gnome should pop up
- Inside the Desktop Environment
 - Once logged into the OS open up the terminal using the search bar after pressing the windows button and typing "terminal"
 - When booting for the first time the terminal will open in bash, not zsh, we can change this by typing "zsh" in the terminal
 - A message will appear after starting zsh saying the the file ~/.zshrc needs to be made, which will be done with the command 'nano ~/.zshrc'
 - Once the nano file is open we then have the option to create the alias's for our new shell, in this case I used to following for the ~/.zshrc file, some practical alias's with one just for fun, that being weather

autoload -U colors && colors

PROMPT='%F{cyan}%n@%m %F{green}%1~ %# %f'

```
alias ll='ls -la'          # List all files with details
alias l='ls -lh'          # List files with human-readable sizes
alias rm='rm -i'          # Prompt before removing files
alias cp='cp -i'          # Prompt before overwriting files
alias mv='mv -i'          # Prompt before moving files
alias ..='cd ..'          # Go up one directory
alias ~='cd ~'            # Go to home directory
alias update='sudo pacman -Syu' # Update system for Arch Linux
alias ip='ip addr'        # Show IP address configuration
alias ping='ping -c 5'     # Ping with 5 packets
alias weather='curl wttr.in' # Check the weather
```

- After creating the ~/.zshrc file we then start downloading a browser which, in the zsh terminal we will download it with the command line 'yay -S google-chrome' and we can start google chrome with the command 'google-chrome'
- Finally we can install a package from the AUR, for this I downloaded spotify but you can download anything of your liking from <https://aur.archlinux.org/packages>