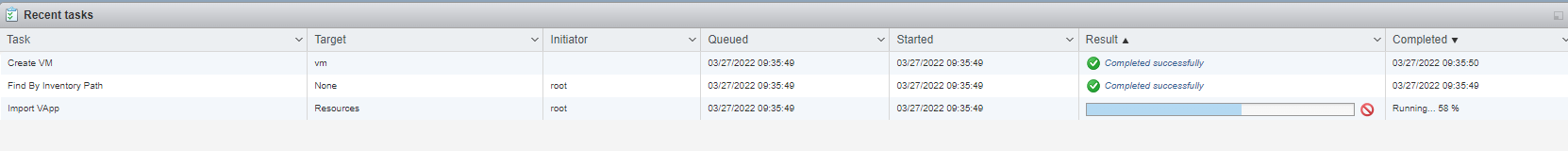
Summary of activities:

Deploy vSphere vCenter Server and add hosts to be managed by the vCenter.

1. Downloaded Installer (not shown)
2. Ran installer on my personal computer, accepted EULA, pointed to **esxi1**, configured host to pickup via DHCP  
   1. The installer can be executed from any computer that can reach the target host the vCenter Server is being installed on. It is a remote installation tool. You can deploy from a virtual machine too, I just chose my personal computer for convenience. I was able to use the normal Windows 10 tools to mount the ISO.
   2. Make sure to check **Enable Thin Disk Mode** when selecting the datastore.   
        
      Table

      Description automatically generated
3. Install Stage 1 initiated  
   1. Installer progress  
        
      Graphical user interface, application

      Description automatically generated
   2. The target host is showing the deployment under recent tasks as well.
4. Stage 2  
   1. Stage 1 completed successfully  
        
      Graphical user interface, text, application

      Description automatically generated
   2. Introduction  
        
      Graphical user interface, application

      Description automatically generated
   3. On the next page it prompted me for options regarding Time synchronization and SSH access. I will only configure the Time synchronization. Since the ESXi hosts are already synchronized with the North American pool servers from poolntp.org, I will have vCenter Server sync time with whichever host is currently hosting. I will not be doing SSH configuration as my lab is not equipped for vSphere HA.  
        
      Graphical user interface, text, application

      Description automatically generated
   4. SSO Configuration: I will create a new SSO domain utilizing a domain I own already “jakeyuhas.com” – but will be using **sso.jakeyuhas.com** to ensure the DNS forwarding does not go out to the broader internet. I do not have Active Directory set up at this time, I would otherwise bring this into the **ad**.jakeyuhas.com domain if that were the case.  
        
      Graphical user interface, website

      Description automatically generated
   5. Configuring CEIP, I decided to not join VMware’s customer experience program.
   6. Review Configuration  
        
      Graphical user interface, text, application, email, website

      Description automatically generated
   7. The installer now is finishing the last configuration steps.  
        
      Graphical user interface, application

      Description automatically generated
   8. Stage 2 Completed  
        
      Graphical user interface, text, application, email

      Description automatically generated
   9. Now we will navigate to 10.0.0.7:443. There is a caveat here though, web browsers and vCenter Server do NOT get along when utilizing IP addresses. This can sometimes break the remote console window and transference of files. Since my base home router does not support routing, I went into my hosts file on my windows computer and pointed a url to 10.0.0.7 instead. – For clarification, my homelab is behind second router, my personal PC sits outside of the 10.0.0.0/24 network on 192.x.x.x.  
        
      I added: **10.0.0.7 vcenterserv.ad.jakeyuhas.com # vsphere** to my hosts file. However, the appliance is not renamed yet. I will need a proper DNS server prior to this to be allowed to do this; and will do so at another time.
5. Configuring a New Data Center  
   1. Right-Click on the vCenter Server appliance in the web management interface and click on **New Datacenter…**  
      Graphical user interface, application

      Description automatically generated
   2. I named mine simply, “Homelab.”
6. Creating a vSphere Cluster
   1. Right-Click on the Datacenter that was just made and click on **New Cluster…**  
        
      Graphical user interface, application

      Description automatically generated
   2. For now I am keeping the basics turned off. I will configure vSAN at another time.  
        
      Graphical user interface, text, application

      Description automatically generated
7. Adding hosts to the cluster
   1. Right-click on the cluster and click **Add Hosts…**  
        
      Graphical user interface, application

      Description automatically generated
   2. For now, I am only adding my other two hosts in which are not currently running anything. I do not want to lose access to my vSphere client.  
        
      Graphical user interface, text, application

      Description automatically generated
   3. After clicking next and authenticating, it will provide a summary.  
        
      Graphical user interface, text, application

      Description automatically generated
   4. Then, click next one more time and it will prompt you that 2 new hosts will be added, but the hosts will be put into maintenance mode while they join the cluster. This is fine as there is nothing running on them currently.  
        
      Graphical user interface, text, website

      Description automatically generated
   5. vSphere will take some time to add the standalone hosts to the cluster.
8. Configuring Cluster
   1. On the Homelab-CLUSTER Quickstart page, option 3, click on **Configure**  
        
      Graphical user interface, text, application

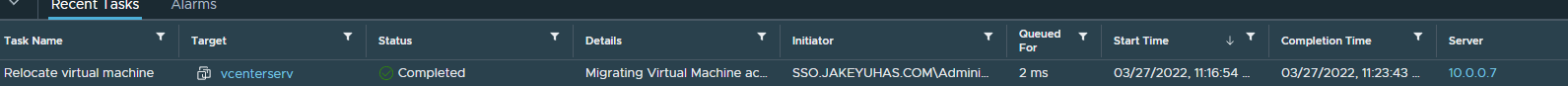
      Description automatically generated
   2. Since there are no services being configured at this time, it will only prompt me for creating a Distributed switch. I will be selecting **Adapter 1(vusb0)** to be part of this Distributed Switch group **DSwitch**.  
        
      Text

      Description automatically generated
   3. On the next screen there are Host Options and Enhanced vMotion Capability. I left both of these alone as my hosts are syncing to an NTP server already; secondly my processor family does not qualify for EVC since I am on consumer hardware.
   4. For the final page, I reviewed my options and clicked Finish.   
        
      Graphical user interface, text

      Description automatically generated
   5. My two hosts are now in the cluster and have exited Maintenance Mode.  
        
      Graphical user interface, text, application

      Description automatically generated
   6. Something new I did not notice is a very tiny Photon OS was deployed to each host that was added to the cluster.
   7. For my final host to be added to the cluster, I first need to add it to my Datacenter. I need to migrate vSphere over to a host that is currently in the Cluster so I do not lose my connection during configuration.
   8. I forgot to enable vMotion on vmk0, so I quickly did that for each host in the cluster and the host I just added to the Datacenter. This will allow me to migrate the vSphere appliance to the cluster.  
        
      Text

      Description automatically generated
   9. I will likely lose connectivity to the webclient during this time, so fingers crossed.  
        
      A screenshot of a computer

      Description automatically generated
   10. Migration complete!  
         
       
   11. I will now add **esxi1** into the cluster and have it configured using the same steps as above.
   12. Cluster configuration completed.  
         
       Graphical user interface, text, application

       Description automatically generated
9. Key takeaways  
   1. I did not know a small VMware Photon Virtual Machine is deployed to each host when a cluster is configured.
   2. You cannot rename vCenter Server appliance without a DNS server. It needs to be able to resolve to the hostname selected. I.E. vcenterserv.ad.jakeyuhas.com needs to point to 10.0.0.7. I could use my public DNS records for this but do not want to expose my internal network. I will wait until I have a Windows Domain controller setup to distribute DNS and then will rename all my hosts/appliances as such.
   3. Just common sense here, it is a very good practice to have a 2nd vCenter Server appliance virtual machine deployed to any given cluster in case if one were to go down.
   4. If you restart your single node vCenter server but want to see if it’s progressing back to an operational state, you can log into [**https://IPADDRESSHERE:5480**](https://IPADDRESSHERE:5480) with the **root** account (non SSO domain one) and go to **Services**. Look for **VMWare vSphere Client** and it should eventually say **Starting** and then after a bit of a wait **Started**.