NSX-T Edge workaround on AMD Ryzen CPU with VMware Lab Configurator (VLC)

As some of us are using AMD Ryzen CPU for our home lab, you may come across articles from Williams Lam, Beniamino Guarnaschelli, and a few others to address the current NSX-T Edge limitation with AMD Ryzen processors.

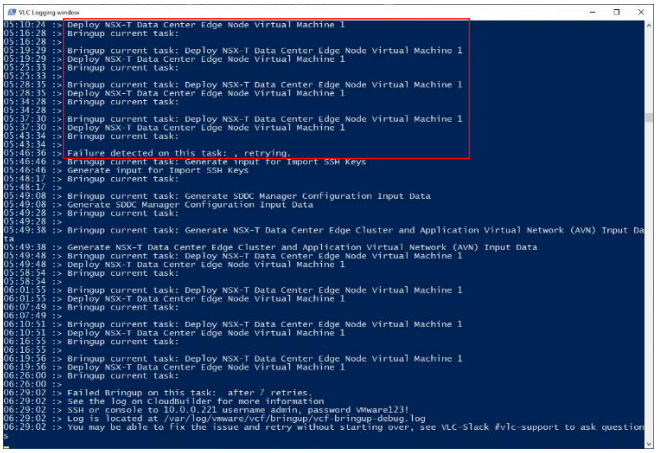
> Configure NSX-T Edge to run on AMD Ryzen CPU
> https://williamlam.com/2020/05/configure-nsx-t-edge-to-run-on-amd-ryzen-cpu.html
>
> NSX-T: Part 6 – Edge Cluster Deployment
> https://nestedvlabs.com/2019/03/22/nsx-t-part-6-edge-cluster-deployment/

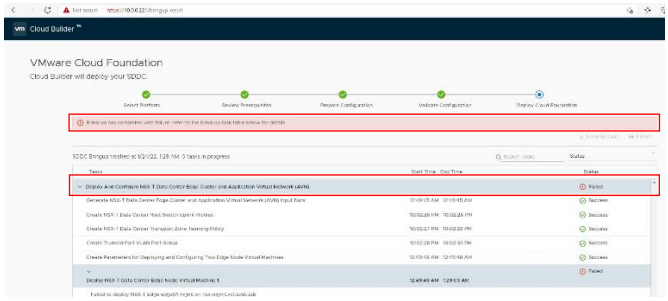
Even though there is a straightforward workaround and relatively easy to automate, getting this to work in an already automated process (like VCF) can get tricky. The following are steps to address and resolve the interruption during the bring-up process by VLC automation.

Disclaimer: *This is not officially supported by VMware. The behaviors described here can change in the future.*

The Errors

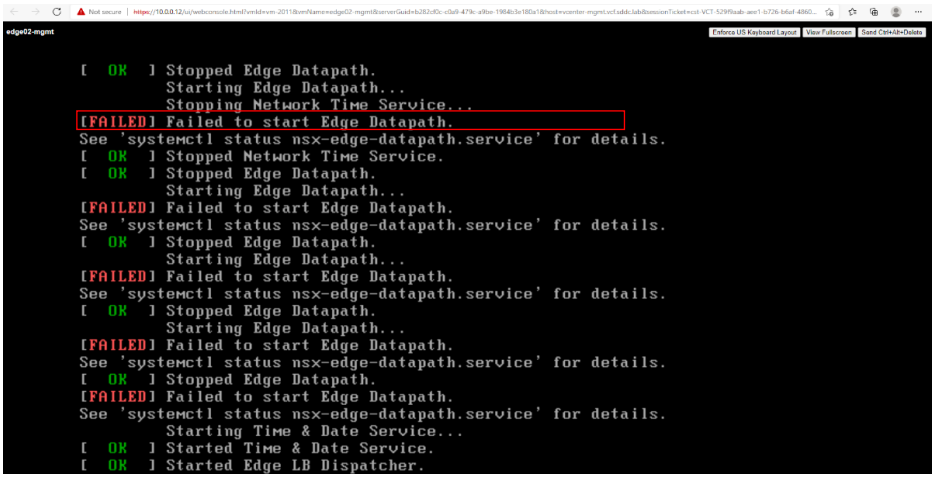
When set to bring up NSX-T Edge Nodes/cluster with VLC on hosts with AMD Ryzen CPU, the automated process will fail, and you will encounter the following errors. The errors appeared on both VLC Logging window and Cloud Builder progress page.





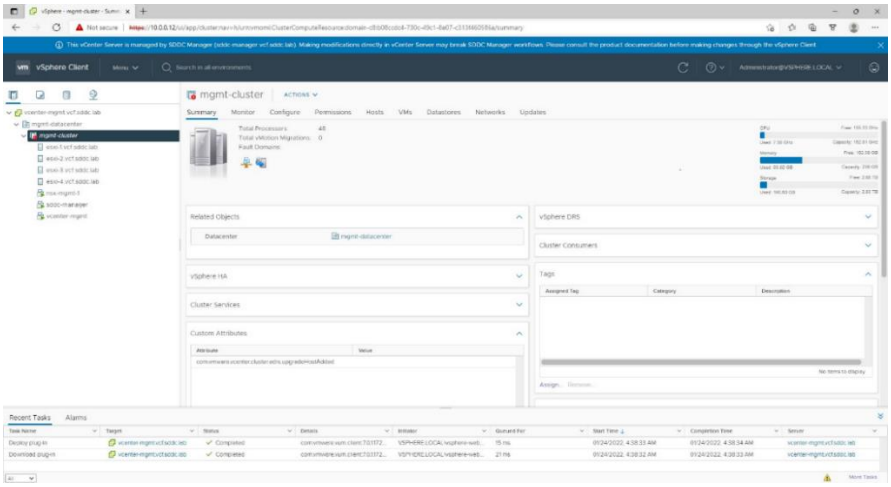
What is happening behind the scene is due to the failure with the **DataPlane** service on the NSX-T Edge Nodes during boot up and causing the Cloud Builder to delete the Edge node VM and redeploy.

Note: *You can also see the failure during the Edge Node bootup.*

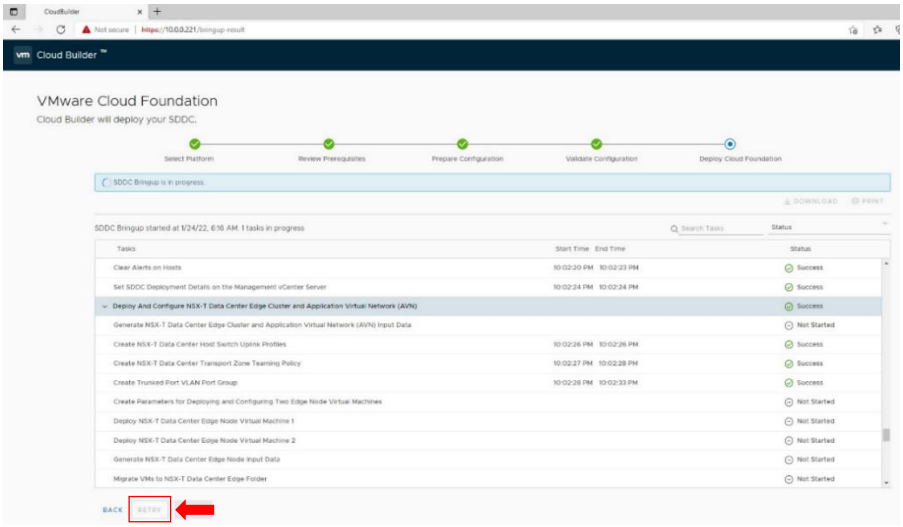


Work Around

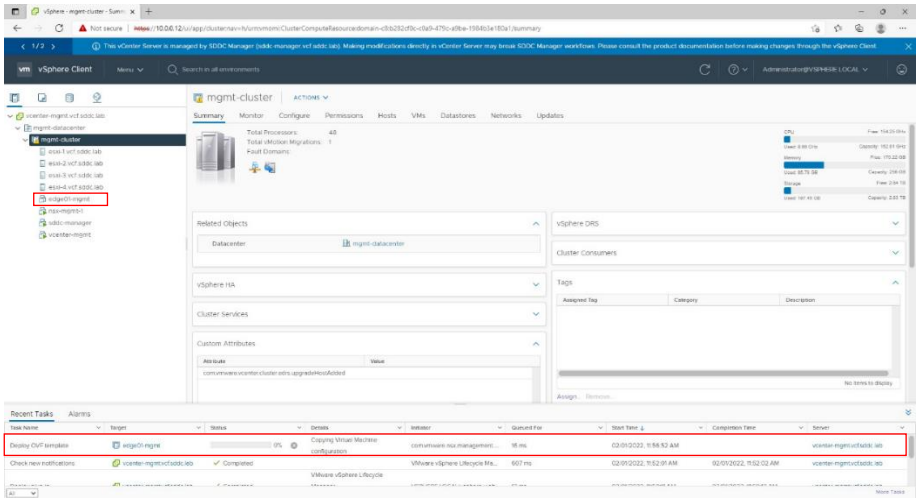
1. First, open the newly deployed VCF vCenter webpage on the supported browser, as illustrated below. One would notice that no NSX-T Edge Node VM is presented.



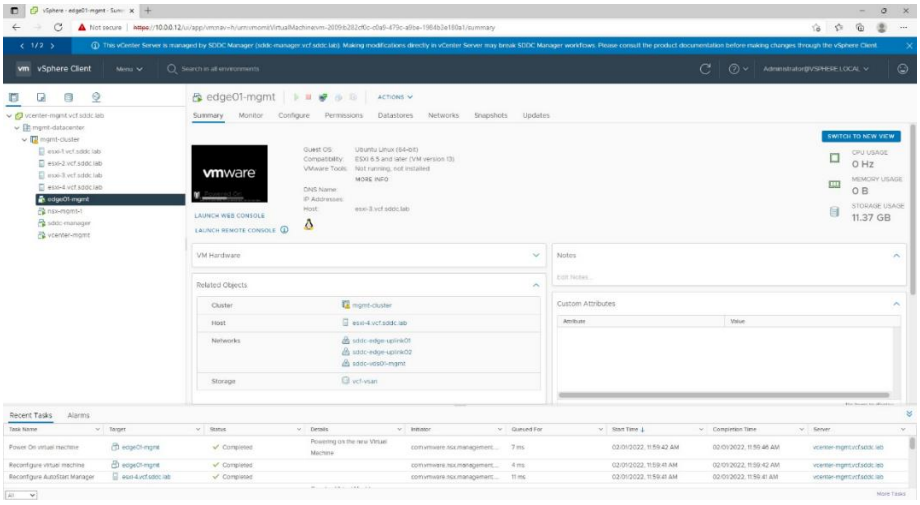
2. *Bring up the Cloud Builder web page and click on the '**Retry**' button toward the button of the page.*



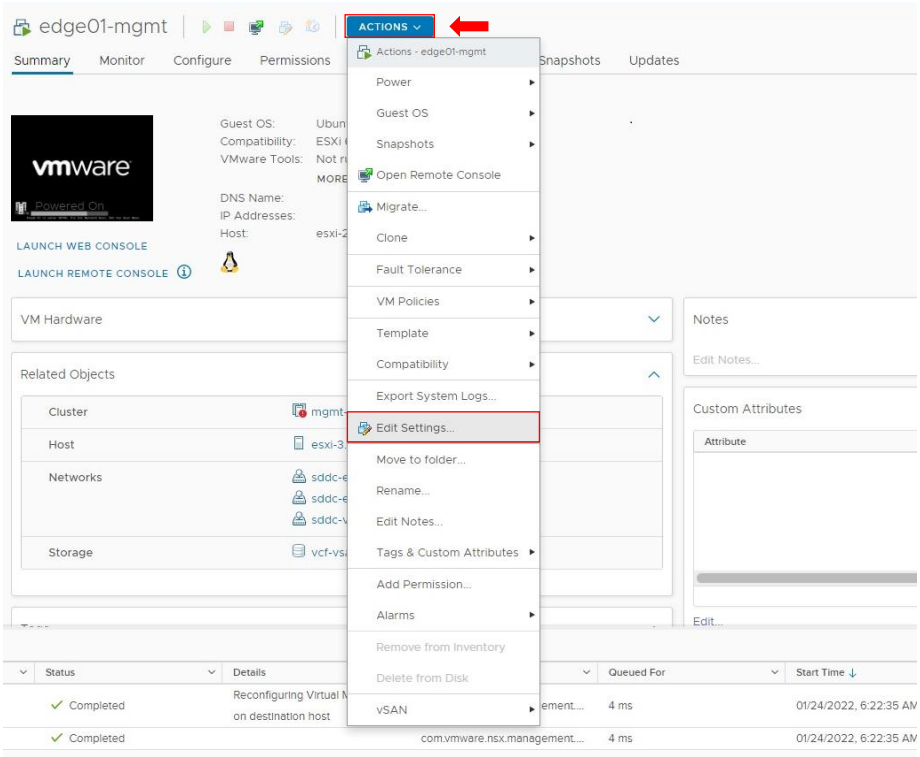
3. Flip back over to the vCenter web page. A new NSX-T Edge Node VM (e.g., edge01-mgmt) will show up on the inventory pane within a few minutes. A new task '**Deploy OVF template'** will also appear on the **Recent Tasks** pane toward the bottom.



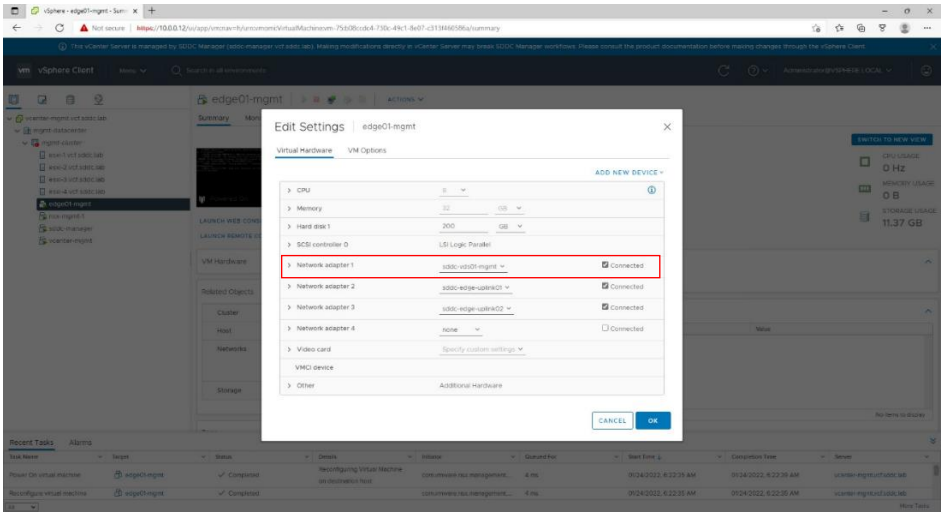
4. Once deployment is completed, the Edge Node VM will begin to power up.



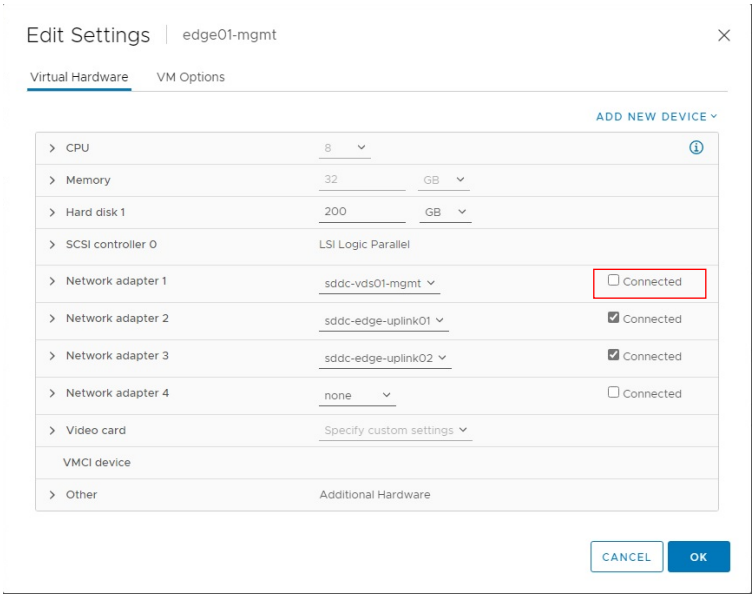
5. During VM power-up, click on **ACTION** from the VM drop-down menu, followed by **Edit Settings**.



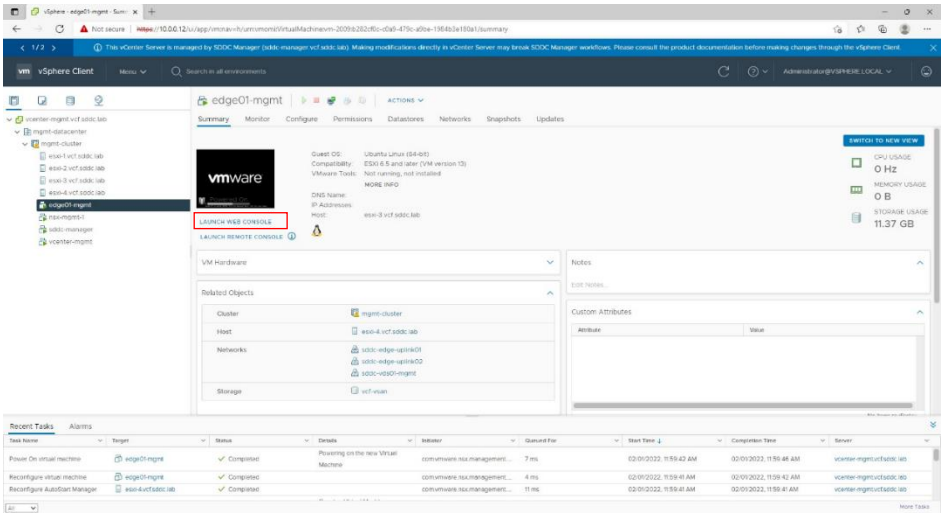
6. Note the VM setting for **Network adapter 1** is set to **Connected**. This needs to be disconnected.



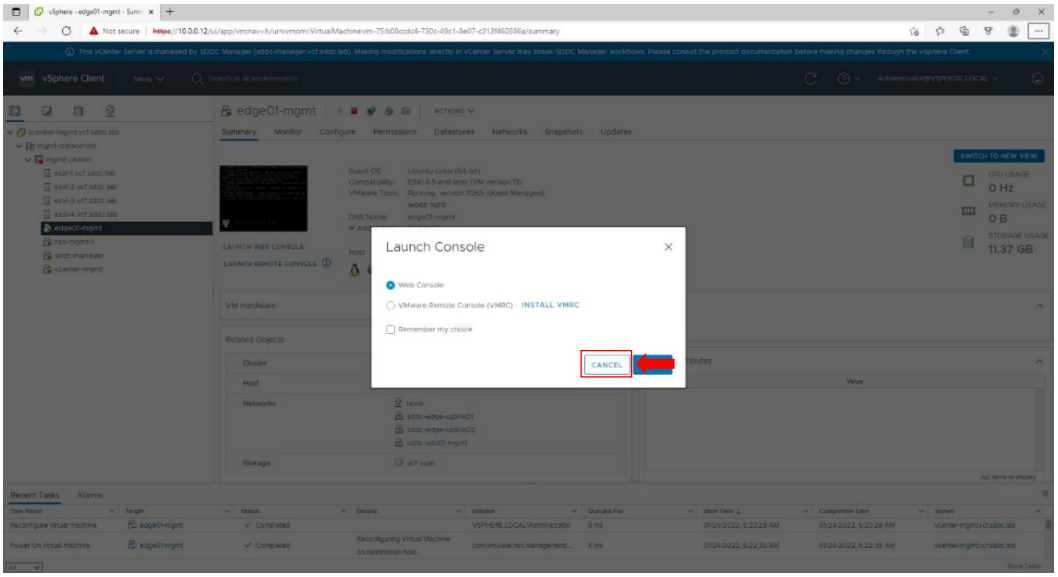
7. Uncheck the **checkbox** next to **Network adapter 1** to temporarily disable communication between the newly deployed NSX-T Edge Node and Cloud Builder appliance. This action will prevent the Edge Node VM from rebooting and redeployment due to the failed service. Or else you will end up in a fail deployment loop.



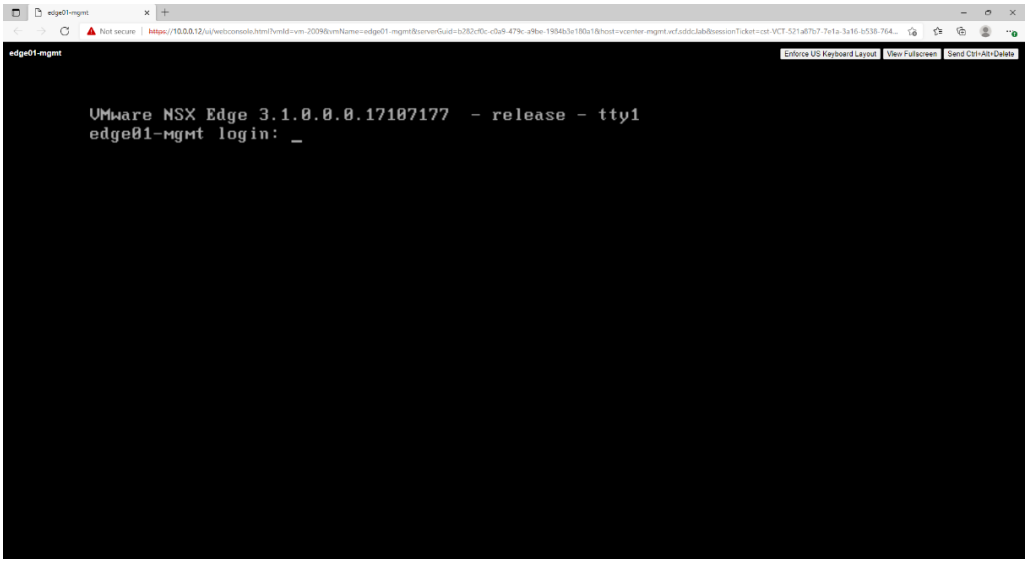
8. Next, click on **LAUNCH WEB CONSOLE** to gain VM virtual console access.



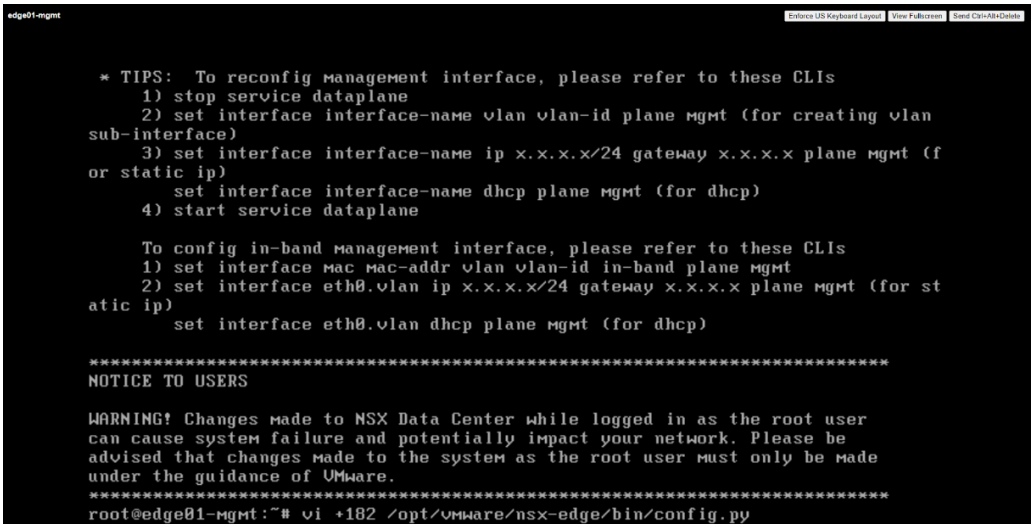
9. At the **Launch Console** pop-up, click **OK** to continue.



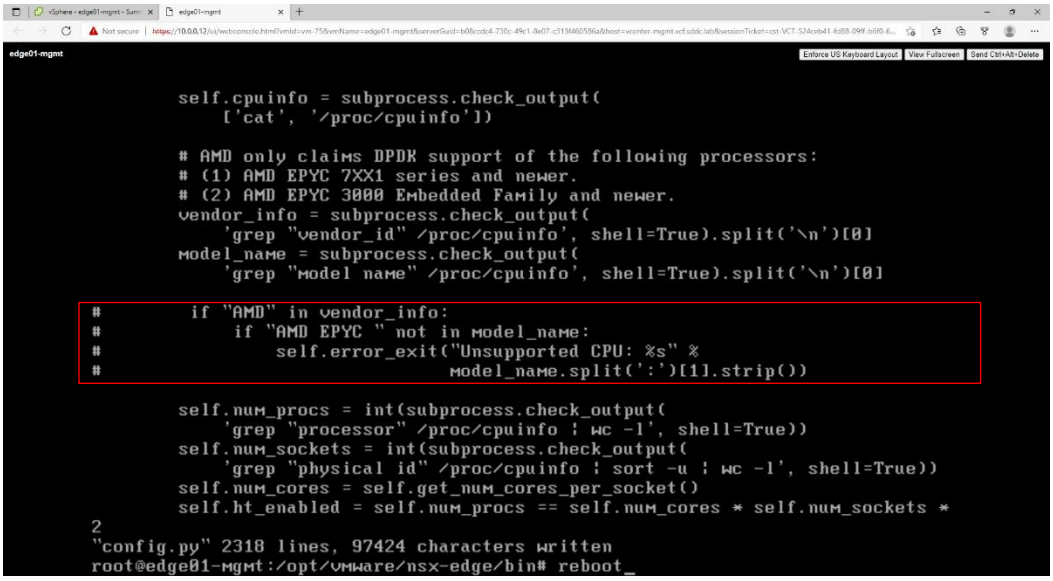
10. Login to the NSX Edge Node VM using the properly assigned credential (e.g., username: root)



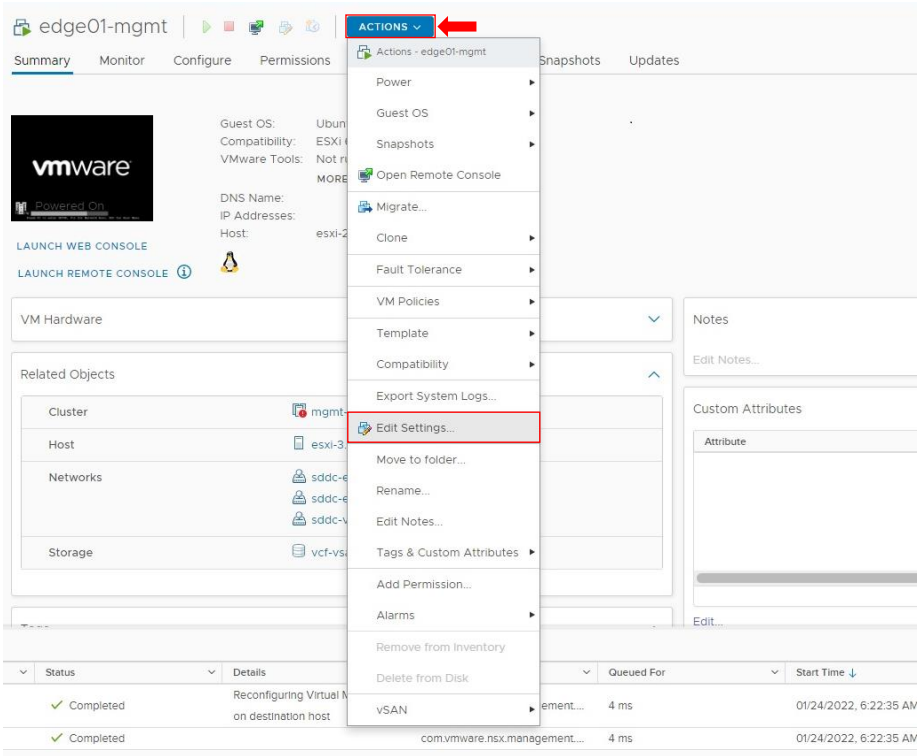
11. At the shell prompt, enter '**vi +182 /opt/vmware/nsx-edge/bin/config.py**'. This will open the configuration file and go directly to the line required manual editing.



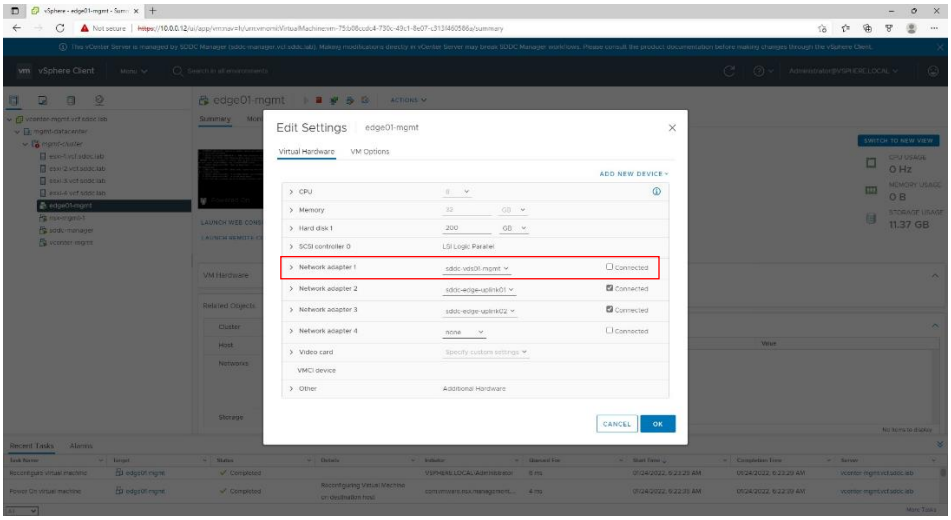
12. Add hash tag '**#**' to the front of each line as illustrated below to halt CPU checking.



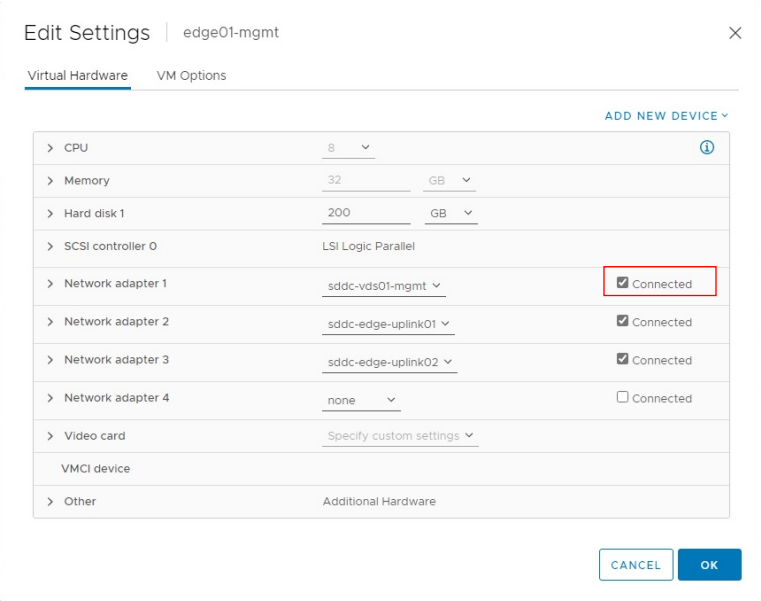
13. Save your edit and exit from the vi-editor using the following keystrokes: **Esc**, follow up by '**:**', '**w**','**q**', and '**!**'. Hit **Enter** to continue.
14. Type '**reboot**' to continue. Now the configuration file has been updated; we need to reconnect the management interface while the VM is rebooting
15. Select the Edge Node VM you were just working on, click on **ACTION** from the VM drop-down menu, followed by **Edit Settings**.



16. Note the VM setting for **Network adapter 1** is set to **NOT Connected**. This needs to be reconnected.



17. Click the **checkbox** next to **Network adapter 1** to enable communication between the newly deployed NSX-T Edge Node and Cloud Builder appliance. Click **OK** to continue.



18. Repeat step 3 to 17 for the second NSX-T Edge Node (e.g. edge02-mgmt)