**Proxmox HA**

Add one more instance of proxmox if you don’t already have 3. So, by the end of this project, you will have a total of 3 instances of proxmox and one instance of Freenas that is running as your nfs server. We need 3 instances in order to do High Availability.

1. Enable HA on proxmox. Choose a vm to have HA.
2. Make sure that if a node in your cluster fails, that your vm will restart on another node (this takes around 3 minutes).
3. Create a template
4. Clone 3 virtual machines from your template. You should have the following setup:
5. (vm1) on vlan 320 (this isn’t trunked so no need to tag). (Or no need to add the number 320 in the virtual machine network settings)
6. (vm2) Do the same as the previous step but in vlan 321
7. (vm3) Do the same as the previous step but in vlan 322

See below for ip allocation.

**Helps**

- The nfs iso share is at [144.38.192.167:/vol/student_vm/qemu/iso](144.38.192.167:/vol/student_vm/qemu/iso)
- Here are the vlan numberings. You don’t have to do much with ipv6 as your nic should automatically get an ip address. I have listed the default ipv6 gateway that your machine will use.

<table>
<thead>
<tr>
<th>Vlan 320</th>
<th>ipv4: 10.150.x.y/16, ipv6: 2001:1948:B10:2270::1/64</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vlan 322</td>
<td>ipv4: 10.170.x.y/16, ipv6: 2001:1948:B10:2272::1/64</td>
</tr>
</tbody>
</table>

**Inception**

Not necessary to do this, but it is fun.

To virtualize a proxmox instance you need to follow the instructions [here](https://example.com). Essentially add the required line to the file on your physical proxmox server and reboot. Then make sure that your nested instance uses the CPU type of host.

**To Pass off**

Prove that you have done everything. Demonstrate that each vm can ping the gateway. To ping the ipv6 gateway you do something like `ping6 2001:1948:B10:2270::1].`