Lab Setup

No, I haven't. Most simple there is the following. I have a windows machine which is my active directory server. The DNS domain name and active directory name is Netapp dot local. I also have a macbook that runs vmware fusion. This is the place where I will run my simulator and I have a Linux machine. The network is 1902160840 windows and Linux will function as my clients that will get storage space from the simulator. My makers just sort of my access point, but all machines including the simulator will be able to connect to one another. The simulator can be downloaded from the my support website at Netapp. It's downloadable for free. You will need an account to log into net app though. Now before we start there's something else which is pretty important in the lab set up. The simulator offers four network interfaces but you can add two more and we will do that.

The first two interfaces, however it should be said too private or post only. This is automatically done so you don't have to think about that. We will need those interfaces later. We are not going to use them for data. Terrific. All the other interfaces should be set to bridged. If you do not set the interfaces to bridge but leave them at the default, which is net meaning network address translation, then you will not be able to connect from clients to your simulator. You're simulate to, we'll be able to connect to the outside world but not vice versa. So you have to set these interfaces to bridge. So summary, we're going to create two additional interfaces. So in total we will have four data interfaces and all for data interfaces should be set to bridged. So let's have a look at it.

So first of all, I'm going to create a directory structure on my Seagate drive to host all of the files that are going to download and work from. So I go to Seagate in my case and I'm going to create a folder and I'm going to call the folder lab environment. Then in that folder I'll create a folder for node one which is obviously I'm going to call it node one. I'm going to store my virtual machine in that folder. Then I'm going to create a second folder that I'm going to be using later on in the training for the second node that I'm going to add to my single node cluster. So my environment is set up and I will start a browser and we'll go to my support.net app.com and I will sign him.

Then I go to the download section and I product evaluation because that's where the simulators and I select data on tap simulator. Then I scroll down to the bottom of the page and agree to the license and terms and conditions and press continue. Now I'm not going to download the installation guide. I could do that and read it, but I'm not going to do that right now. Also, I'm not going to download the licenses. I'll do that later as well when we need them. And, but I am going to download the simulator, not for Esx, but for vmware workstation player and fusion. So I will download the correct simulator, which is for my fusion environment. So when I click on it, it will start downloading and it's nine in a three megabytes. I, uh, select the lab environment directory as the location and it will start downloading. What I can do is I can view it in, uh, in the folder itself and see that it is downloading. So I simply wait until it's finished and when the download is complete, I will have that ova file, which I will have to extract. I see it's almost one gigabyte of space that it takes. And when I look at it in a terminal window, um, and I list my directories, so I give to the Seagate lab environment and do a listing. And what I see is I have that OBF file.

Okay, I have to extract it. And on Unix I can do that with tar. So it's compressed. So zip means decompress, x means extract and F is obviously the file that you want to extract. So I've extracted it and I do listing again and I see I have my files, this is the collection that I'm going to use and I'm going to use that particular ova file that it has extracted from the Zip tar file. So that's the file that I will need in fusion. So let's start fusion. So I will import the ova file. So I run import, then I choose the file and the file is that ova file of eight kilobytes. I open it and I continued. No like asks me where do you want to place it and now I will place it and no one, which is the first node of my cluster.

So this is the location of that virtual machine. So it started importing the virtual machine and once it's imported, I have a look at the settings and I see that my networking is private to my mic and private to my mic, which is the first two interfaces. And the other two are shared with my Mac, which is network address translation. We don't want that. So we have to that. So we go to the settings and we will change. We don't touch the first one, just check it and we see it. It's private to my Mac, which is okay because this is going to be my cluster interconnect later on. Then uh, the second one is also private to my mic. I don't touch it. Then I go to the third one and it says it is, um, uh, shared with my Mac and I don't want that. I changed that to bridge networking and I sit it to auto detect. So we'll find out which of the interfaces, physical ports it's going to use to connect to the outside world and the outside world can connect to my physical port as well. Uh, so I do that for the second interface as well. Then I'm going to add two more devices and both will be bridged like we agreed.

So send it to bridge and add the last device. Also set that to bridge and we're done with the devices. So now we can boot up a virtual machine for the first time. So we Butoh VM and I'm going to likes and screen a little bit so it's more readable for us and it tells us that we should type controls, see if we like you have to do that. Otherwise it will will come into a boot loop because it doesn't have its disks initialized yet. So you have to initialize the discs. So you simply press control c, then it says to boot menu will be available. And once that's there I can select number four, which says clean configuration and initialize all the risks. We have to do that only once. Okay. So we pressed for and it asks us, it checks whether we shore and we have to be very sure because you will lose all the data on the drives if you would have data, all the drives.

But we have no data so we can initialize all of the discs and it will start to reboot for a wipe config. Uh, again, I press enter to continue the boot so I don't have to wait for 15 seconds and it says white filer procedure requested. So we'll start initializing all of the drives, which basically means zeroing the discs. Once it's done that these disks can be used to store our data. So in real life, this will take a little bit longer. So as speed, I speed up the video a little bit. So it says you should have auto support configured because then we can help you if you have problems. We agree to that. We simply say yes. Then I have to specify the node management port, which is the third interface, which is the bridge, the first bridge interface, and we give it address 99 in our subnet and we say the net mask is classy.

We specify any gate where we like, we're not going to be using that date way anyway, but we specify it. Then it says you can continue using the browser, but we're going to stay in the command line and press enter to complete cluster set up using the command line. Do you want to create a new cluster or joined? Of course we want to create a new cluster. Then is this going to be single node, yes or no, and let's say yes, so we're going to create a single node cluster. Then it will ask us

for the administrator password. So we enter the administrator password twice. Then the cluster name, let's call it cluster one.

Yeah. Then it will start creating the cluster. That will take some time because it has to start all of the demons. So the services will be started in the background system, startup and all the other stuff that it will need to run the cluster software is started at this point. Then we can add an additional license key. We're not going to do that. Um, then it also asks for the management for it. How do you want to manage your cluster via which support? We are not going to do that via that. Hey, we're going to do that via c. So, and the address would be 98. Then that mosque again.

Then the DNS domain name that we'll be using is Netapp dot local and the name server Ip address is my windows server, which is the active directory domain controller and also the DNS server. So in my environment I use two, four, seven as the DNS server and add server. Um, then I have to enter location, let's say somewhere in the Netherlands and I'm able to log in. So I log in as Admin, enter the password and I have my cluster all set up. So there's cluster one node one health is true, eligibility is true as well. And we done, I was logged in as Admin, but I can also log in as admin using a browser. So I just want to share you, we're not going to be using this all the time, but every now and then we will have a look at what you can do in that browser.

So we connect to the cluster management port from a browser. So we type admin and we'd have to password and then we sign in and we get to see the dashboard. As you can see, I'm logged in as Admin and I see the number of nodes. I've got exactly one node and the node is called cluster one dash zero one and the note is online, which is nice. Also, we have some additional things that we can start to configure the storage, the network. We're not going to do all of that. Now what we do is we know that it's there and we go to it at any time and we sign out and we leave the system manager. Oh, that's a lot of windows.