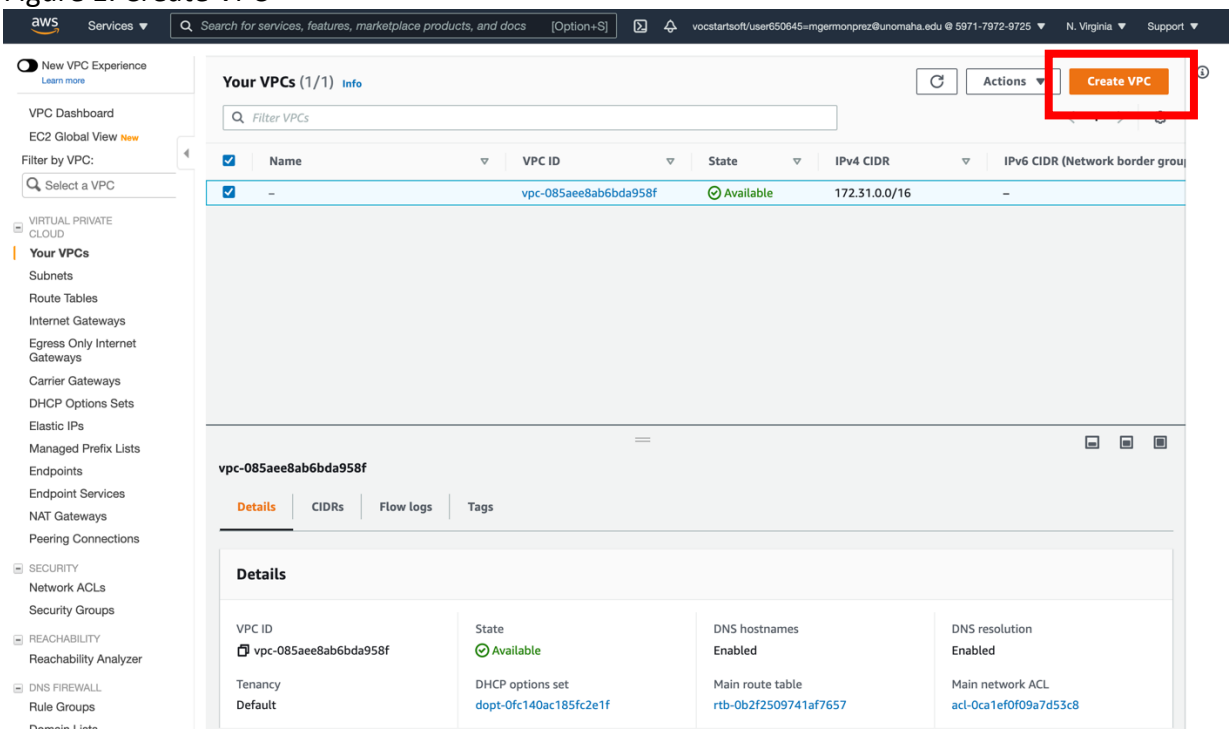
Virtual Private Cloud Lab

This is the VPC lab in our continued investigation of the AWS environment. In this lab, you will be creating a new virtual private cloud (VPC), along with an associated subnet within that VPC, and you will be (like old times) launching an instance into that VPC/Subnet. I would like to point out that there are two questions at the end of this lab that I'd like you to answer, in addition to the usual things of taking screen captures and providing descriptions of your work.

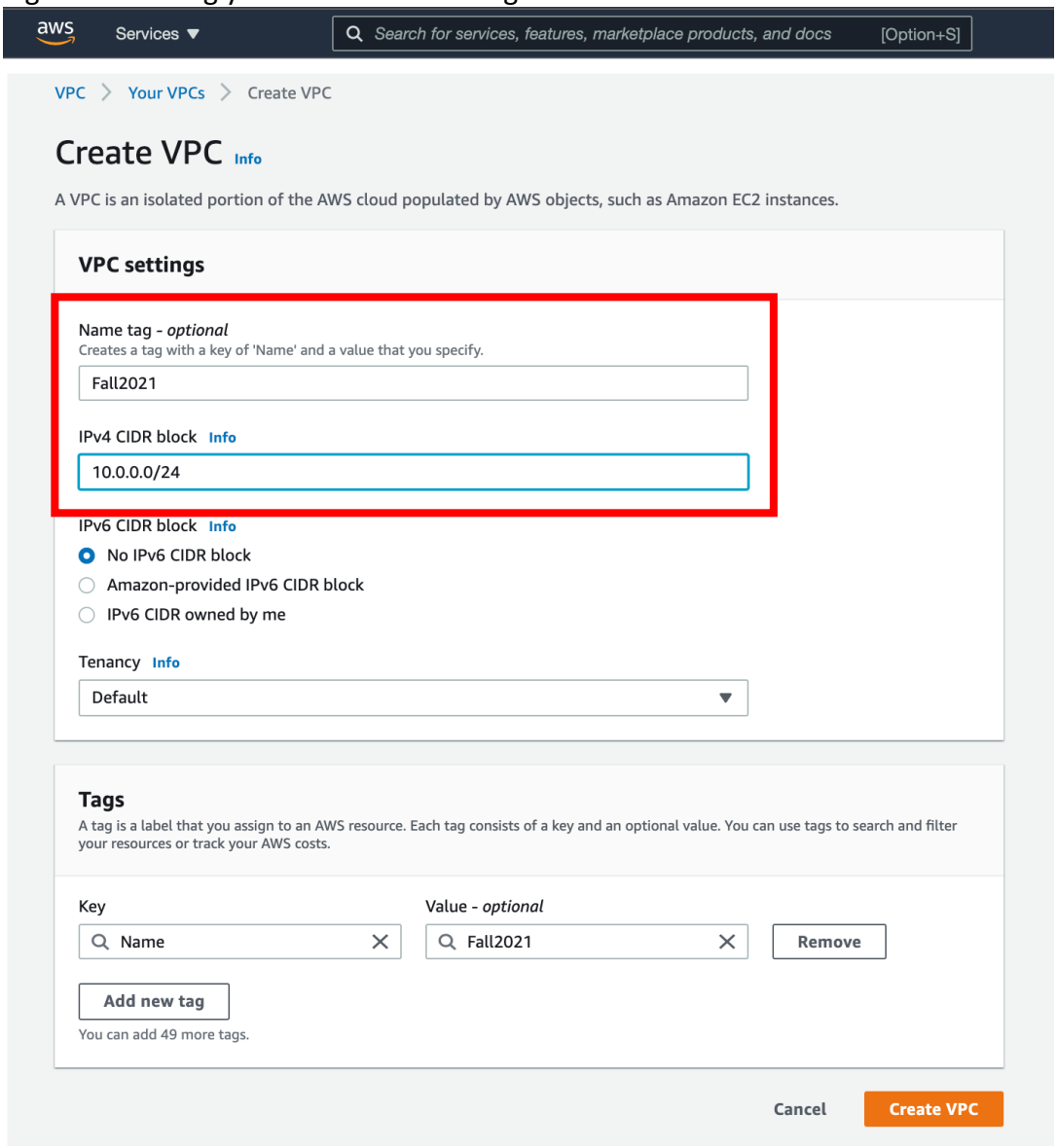
To start, open your VPC service in AWS. You can find it by simply searching for 'VPC'. When you open it, you will have a button in the top right corner needed to create your VPC.

Figure 1. Create VPC



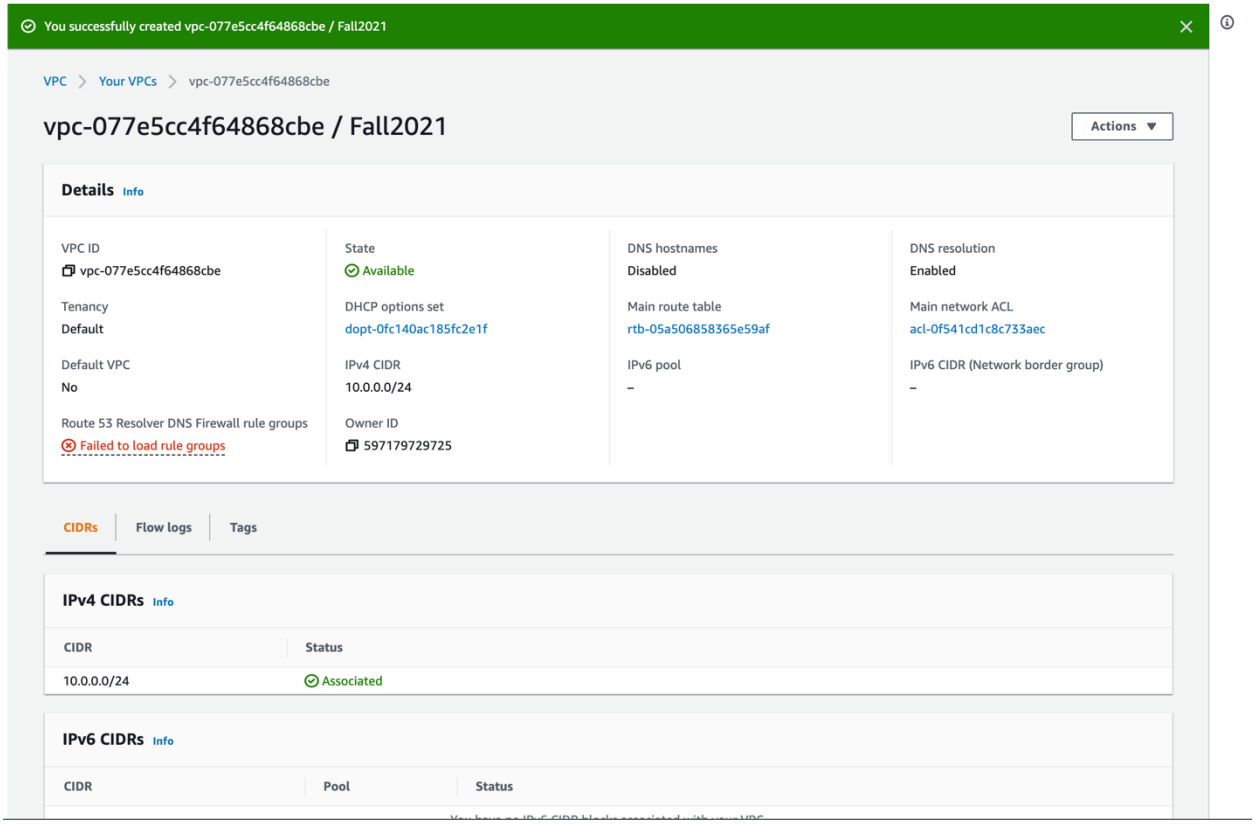
Clicking on that button will take you to this screen. Create a name tag for the VPC and you will have to declare the size of the VPC. This is in the CIDR block location. This will just determine how many IP addresses we are able to deploy in the VPC. You can use a different block than me, that's up to you.

Figure 2. Naming your VPC and declaring the CIDR block



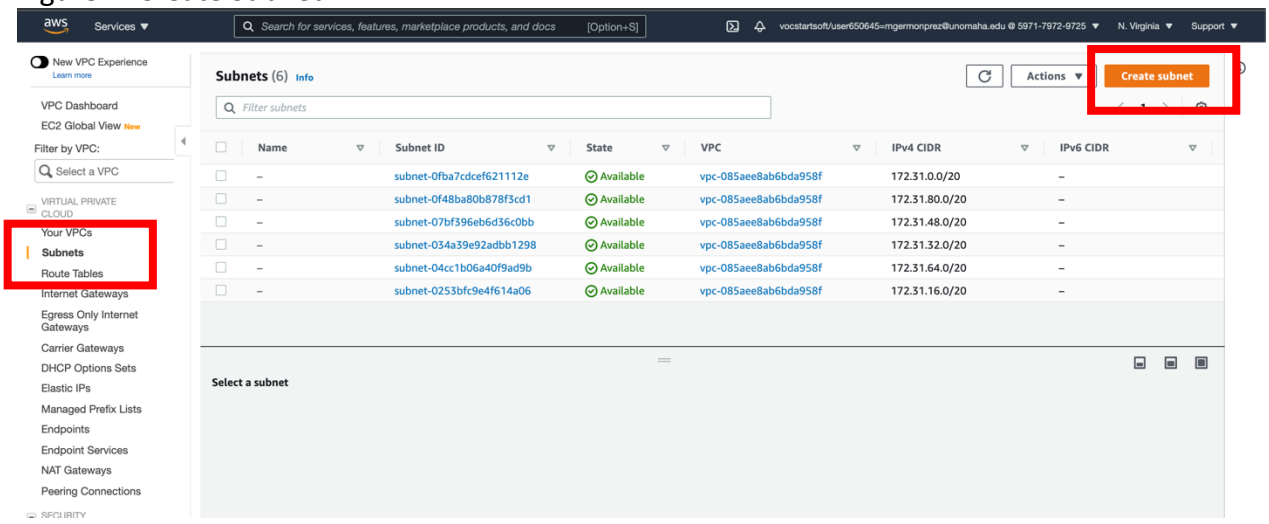
Great! You have created a virtual private cloud in AWS in the click of about two buttons. Pretty easy. Remember what a VPC is. It is a network that we created to which you could deploy resources (i.e., the Apache web server). We're not quite done in having that happen, but we are moving in the right direction.

Figure 3. Success!



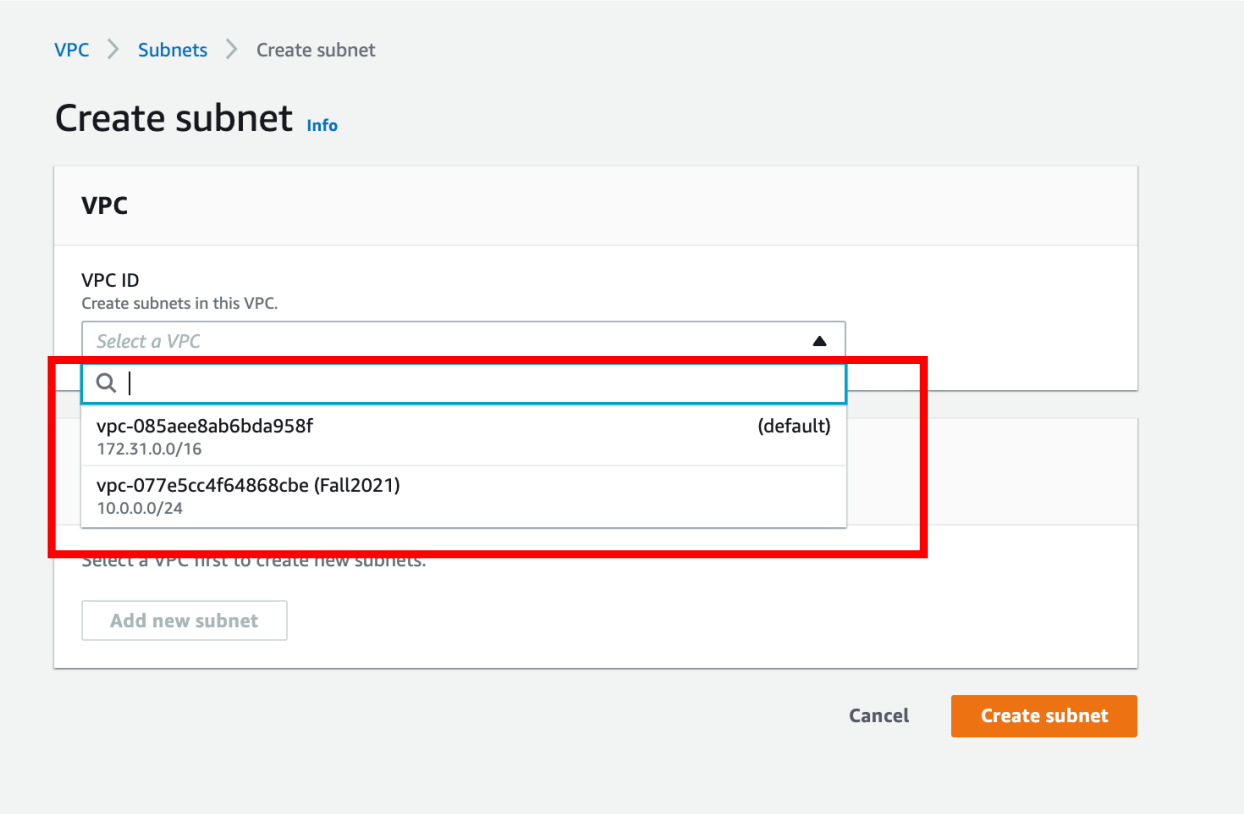
After you have created your VPC, we now need to create a subnet within that VPC. This also isn't very difficult. Over on the left side, you can simply click on the Subnets option.

Figure 4. Create Subnet



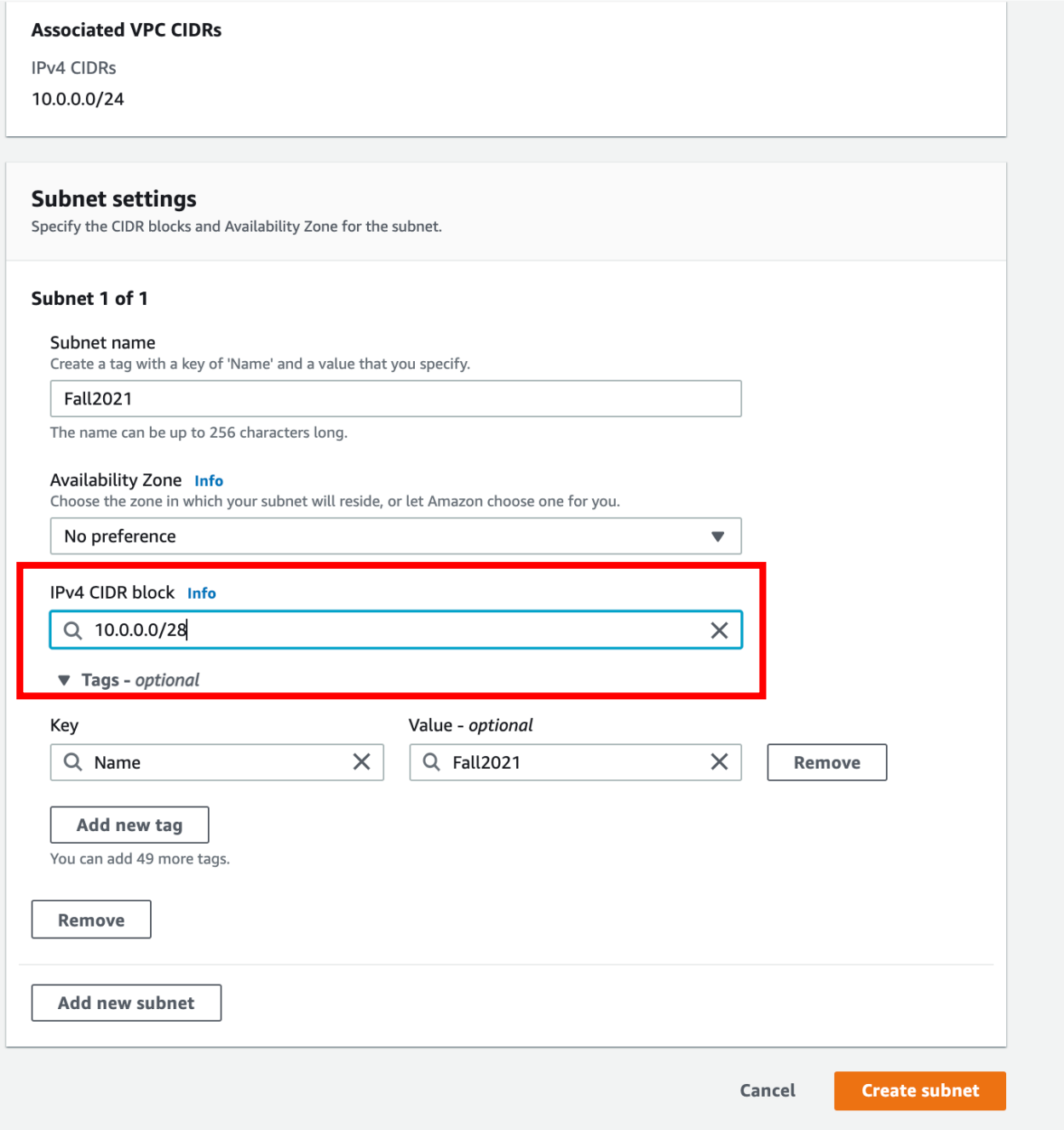
The only thing here is to note that you need to assign the subnet to your newly created VPC. You should only have two choices – default and the new one.

Figure 5. Associate subnet with VPC



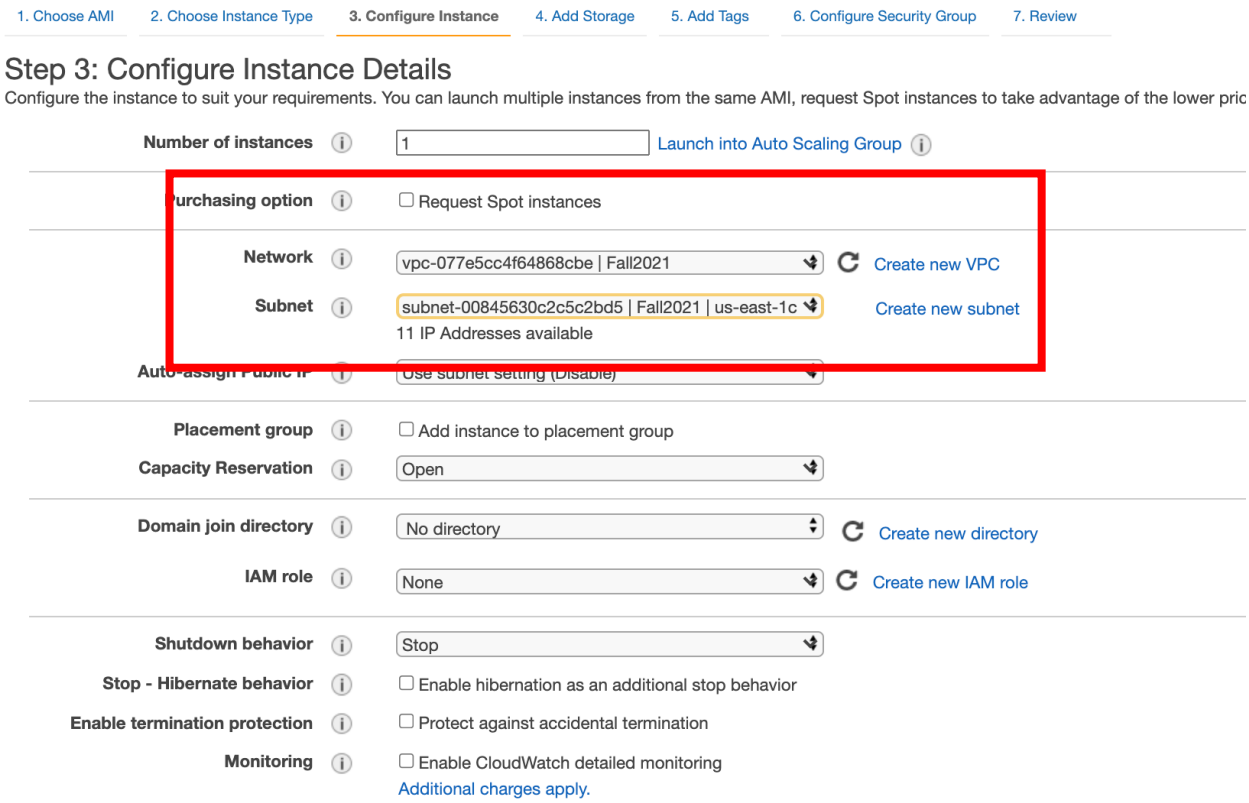
Once you've done that, you will need to declare a CIDR block size to the subnet. Generally, this is some smaller block of numbers than the entire VPC itself. In this image, I went with the /28 size as a subset of the /24 for the overall VPC.

Figure 6. Create subnet CIDR block size.



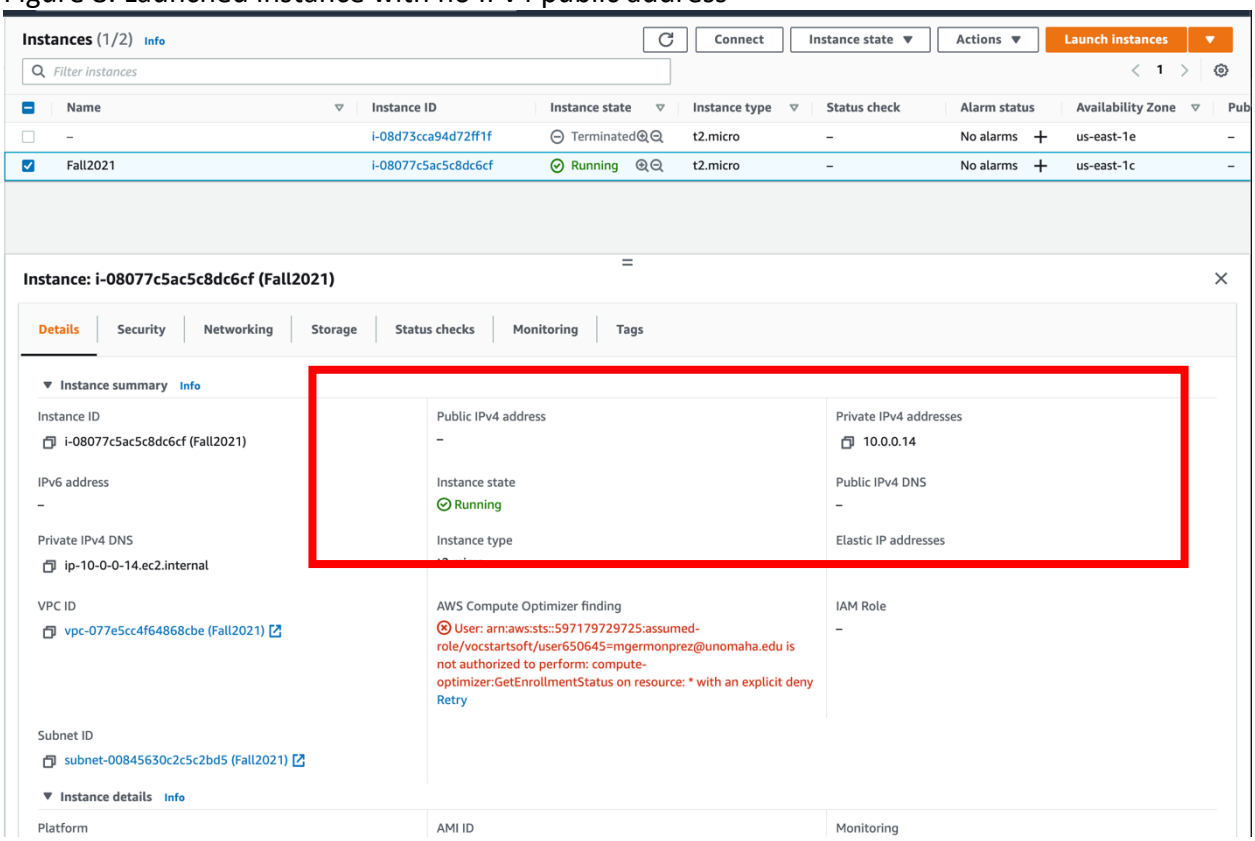
Great! Now you have a VPC and a subnet within that VPC. At this point, I want you to launch a new instance into that VPC/Subnet that you just created. The only real difference from things we've been doing in the past is that you will need to declare the VPC and subnet in the details step.

Figure 7. Launch instance into new VPC/Subnet



At this point, your instance is launched into the new VPC/Subnet. However, I'd like you to notice that there is no public IPv4 address like we've had in the past.

Figure 8. Launched instance with no IPv4 public address



With respect to AWS, you are done but here are the questions I want you to also answer with respect to this lab:

- Question: Could you deploy an instance into a VPC without a subnet? Please explain your answer.

- Question: Why is there no public IP address for you instance in this lab? What do you think is missing from our work that would enable a public IP for our instance?