



# Linux Academy

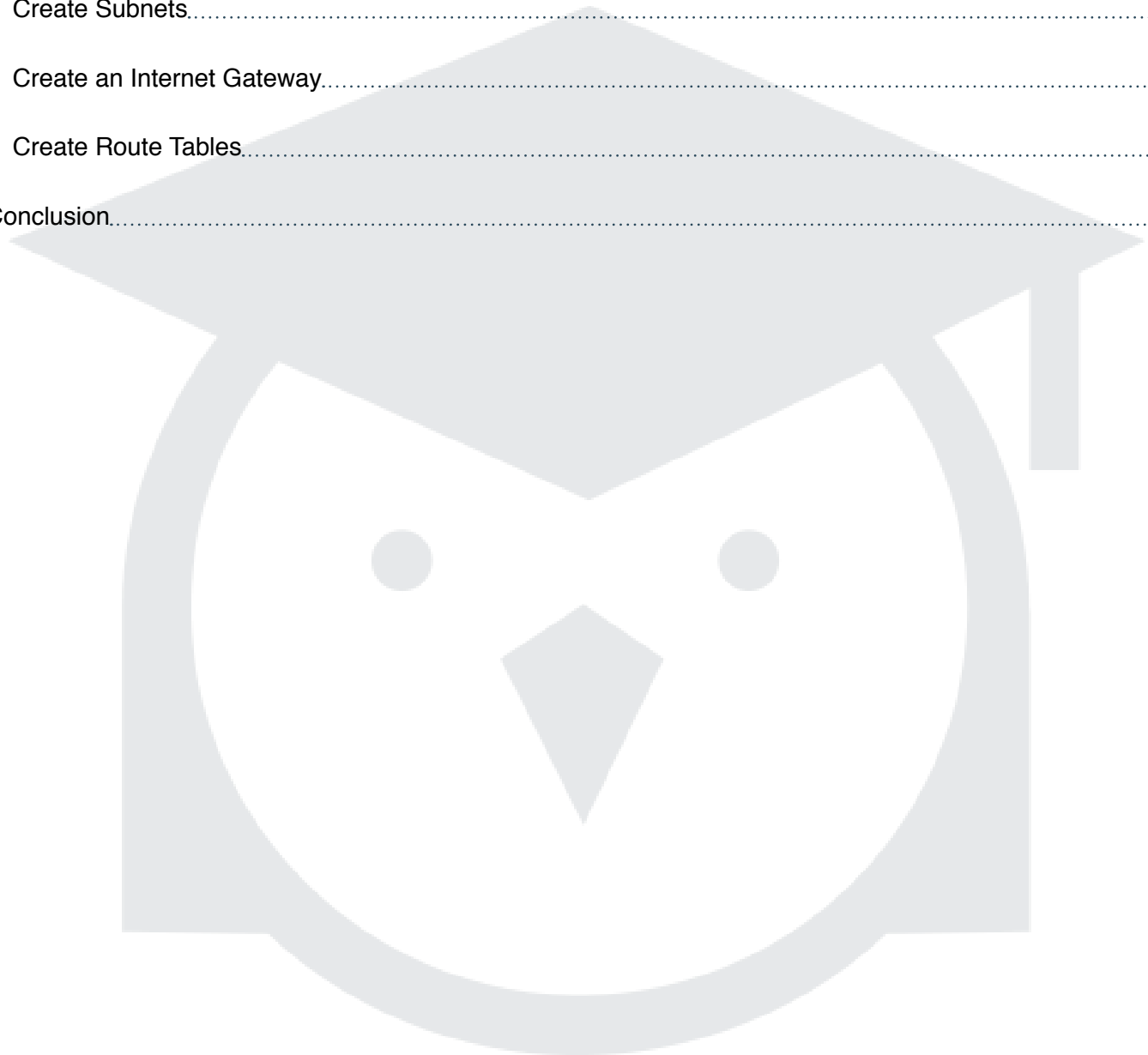
## Hands-On Training

Building a  
Virtual Private  
Cloud from  
Scratch

# Contents

---

Introduction.....	1
VPC Creation.....	1
Create Subnets.....	1
Create an Internet Gateway.....	2
Create Route Tables.....	3
Conclusion.....	4



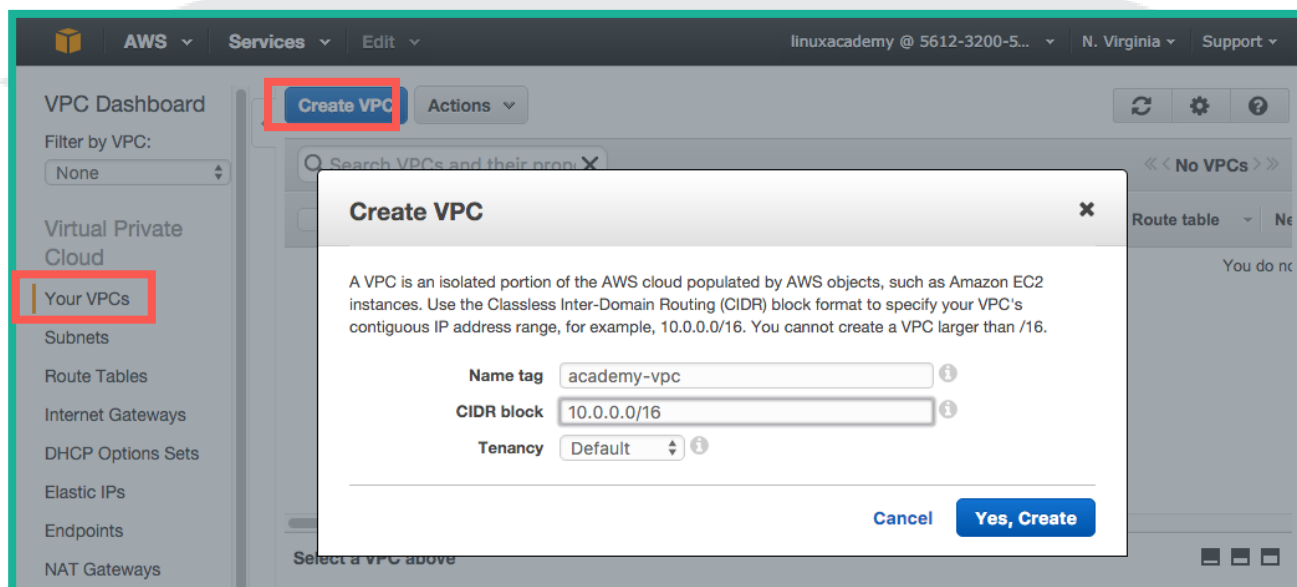
# Introduction

In this lab, we are going to create a VPC by hand, without the use of the provided wizard. This will involve creating a public and private subnet, a route, and an Internet gateway for our public subnet.

## VPC Creation

From the provided AWS console, select **VPC** — located under **Networking**.

Select **Your VPCs**, and then **Create VPC**.



Name your VPC in the **Name tag** area, and then define the **CIDR block**. In this example, we will call our VPC *academy-vpc*, and our **CIDR block** is *10.0.0.0/16*. You can leave the *default* option for **Tenancy**.

### Note

*It is always important to consider what you want your CIDR format to be. For example, if your office subnet is 10.10.30.0/16, you would not want your Amazon VPC to be in the same, lest there be conflict.*

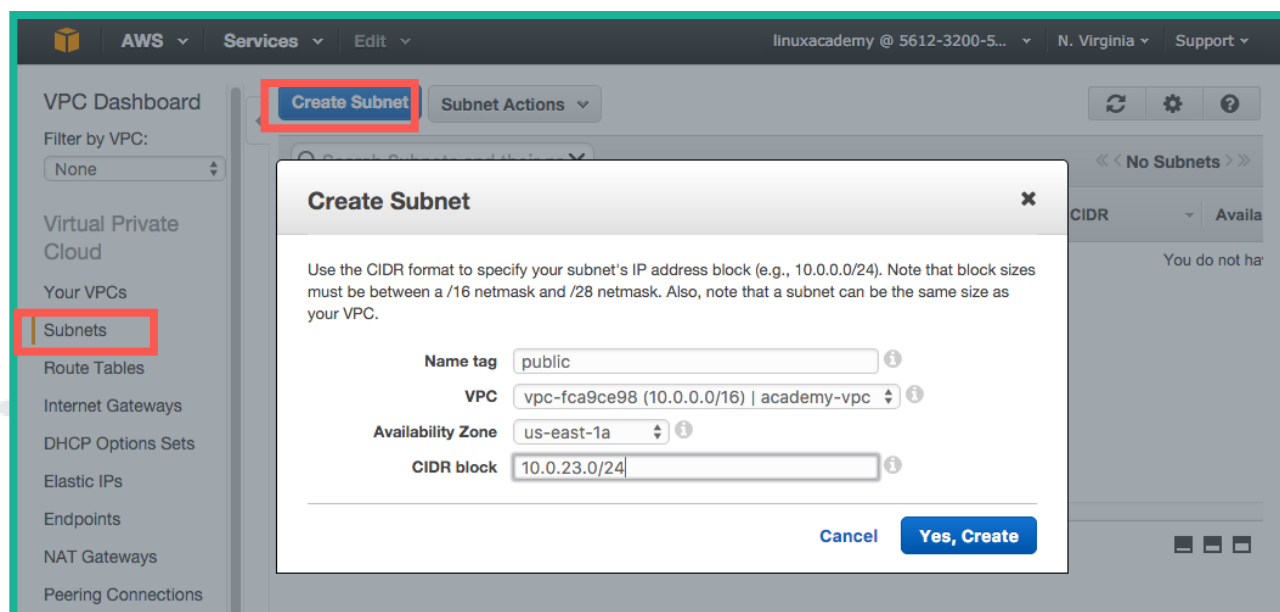
Press **Yes, Create**.

## Create Subnets

From the left menu in the VPC dashboard, select **Subnets**. We are going to begin by creating two subnets: A public, and a private.

Select **Create Subnet**.

Name your subnet in the **Name tag** area. In this example, we will be calling our's *public*. Select your newly-created VPC from the drop down and *us-east-1a* for the **Availability Zone**. For the **CIDR block**, select one that is a subset of the one defined for our VPC. We will be using *10.0.23.0/24*. Press **Yes, Create**.

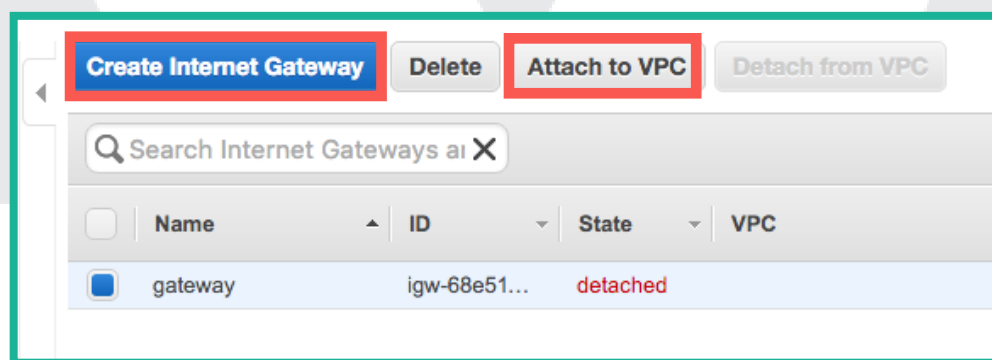


Repeat this for the *private* subnet. We will be using the **Name tag** of *private*, the VPC we just created, *us-east-1a* for the **Availability Zone**, and *10.0.24.0/24* for the **CIDR block**. **Yes, Create**.

## Create an Internet Gateway

From the left menu in the VPC dashboard, select **Internet Gateways**. Press **Create Internet Gateway**.

Give your Internet gateway a name in the **Name tag** section. Press *Yes, Create*.



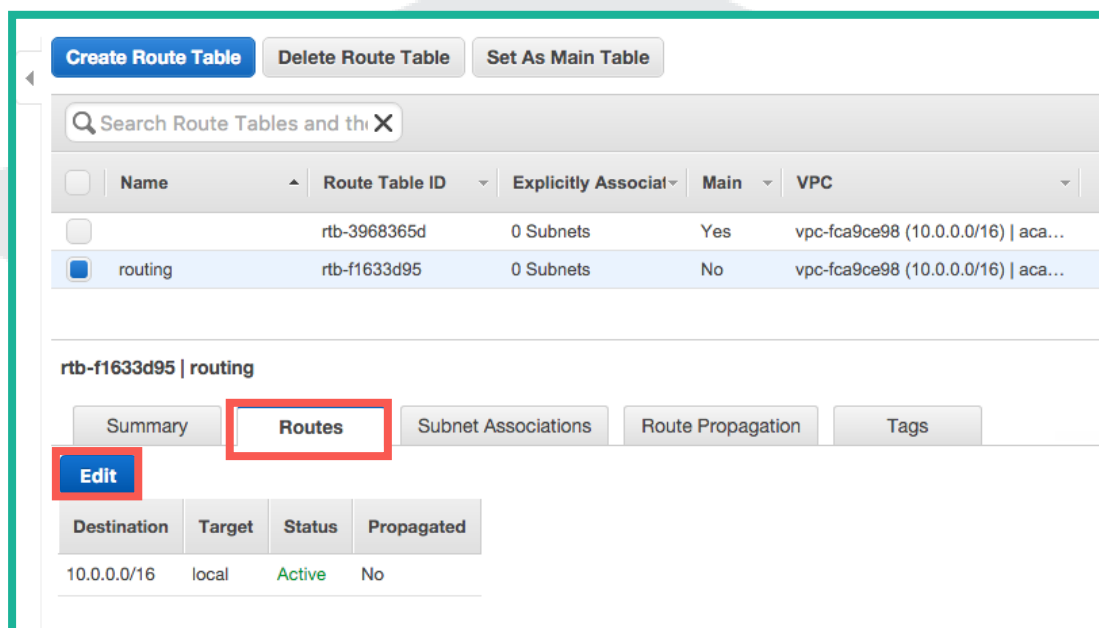
The gateway is now present in your dashboard, with a listed **State** of *detached*. Select your gateway and click on **Attach to VPC**. Pick your VPC from the drop down, and press **Yes, Attach**.

## Create Route Tables

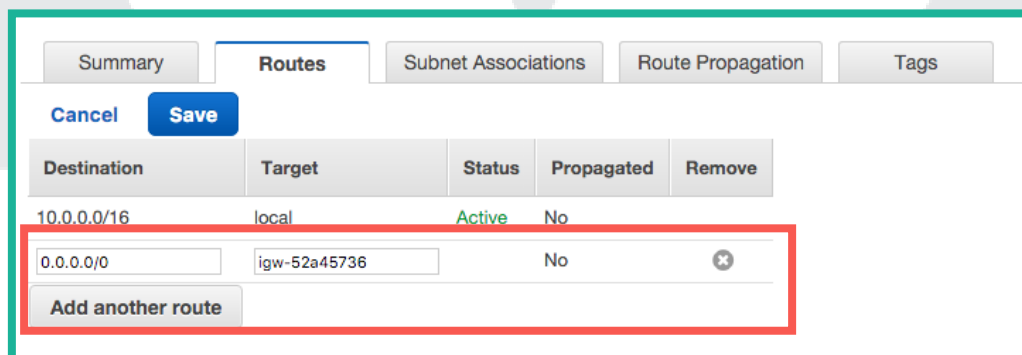
Although AWS provides us with a default route table, we will be creating our own. Select **Route Tables** from the left menu, then click **Create Route Table**.

Give your table a **Name tag**, and select your VPC. Press **Yes, Create**.

Next, select your table from the list, and click on the **Routes** tab below. Select **Edit**.



We are going to use this routing table for routing to the public. The table provided by AWS will be used as our private. Still editing the public table just created, **Add another route**. Type **0.0.0.0/0** (ANY) for the destination, and begin typing in the name of your Internet gateway under **Target** — it should appear as you type. Select it. **Save**.



From here, select the **Subnet Associations**. Press **Edit**, and select the subnet you have designated for *public*. **Save**.

## Conclusion

---

You have followed the steps for creating a VPC from scratch, allowing for publicly-accessible instances to be launched on the public subnet, and for the creation of any private instances in the private subnet. However, for any instances in the private subnet that may need to connect to the Internet, we will need to set up an NAT instance. This is a separate lab you can find later in the course.

