12.6.3 IP Forwarding

Click one of the buttons to take you to that part of the video.

IP Forwarding 0:00-0:15

In this demonstration, we will show IP forwarding.

To do that we need to change the way our firewall works or add information to our firewall.

Very the Firewall Status 0:16-1:09

The first step is to make sure that our firewall is indeed running. The first step, though, is as you can see, I'm logged in as just a standard user. So, if I do a ‘whoami', you'll see him just the test user.

So, the first object would be to authenticate as the root user. Now, in most circumstances, we can use sudo and that's a good idea when we're dealing with the firewall. However, for this demonstration, it will just be easier to go ahead and upgrade ourselves to the root user. Go ahead and put in the password.

As you can see, I've now logged in as the root user, whoami shows root. Okay, let me go ahead and clear the screen.

All right, our first step is, "is the firewall running"?

So, ‘firewall -cmd --state', and it tells us were running, so we're good to go.

Adding a Port 1:10-2:15

There are several reasons why we might want to do IP port forwarding. One of them could be that were using some kind of a proxy server. We could be trying to hide some services, so we need to do this translation and it just makes a little bit more secure. Of course, the bad guys can always get in and they can find these things out, but this may make it a little trickier for them.

The step that we need to do first is make sure that we add the TCP/IP port that we want to forward to. That command again is, firewall --cmd. Now we need to specify our zone, which we'll use ‘public' for this one. Now we need to add that port so --add-port=…and then let's say we are going to use port 8080 as the port that were going to be using and then we need to define the protocol. In this case, it will be TCP rather than UDP. Go ahead and press enter, tells us that we are indeed successful.

Port to Port Forwarding 2:16-3:28

Now that we have the port, we can forward another port to it and in this case will forward port 80. So, firewall -cmd specify our --zone=public.

Now what we need, is we need to define what port we are forwarding. We'll do that with the --add-forward-port= and it now gets a little strange.

We need to specify port=80. So yes, we do have --add-forward-port=port=80. That's the protocol that's what we do. Now we had a colon and we specify the protocol were going to use, which, in this case, is TCP. And, and we need to define what port were forwarding to. That's the port that we created earlier, so it is toport=8080. Press enter and that's done. That's been successful.

That's how to forward a port from one standard port to another port that we created on the same server.

Port Forwarding to Another Server 3:29-5:26

Now, it gets a little trickier if we wish to forward to another server. It could be the same port. It could be a different port, that really doesn't matter, but the first thing we need to do is we need to add what's called masquerading and that's what allows us to forward to another server.

So, firewall -cmd specifier --zone=public, now we have to --add-masquerade. That was successful.

Now we can issue the command, not only to forward our port, but also forwarded to another server within our internal network. The command is identical to the one above where we forwarded from one port to another.

So will start at the same way --add-forward-port=port=80. The proto is still tcp. The toport is still 8080. Here's where it changes. Now we specify the IP address of the server that were going to go, so toaddr=192.168.100.10. Press enter, and we are successful. So, in this case, that the commands are the same, only one forwards a port to a different port on the same server and the second one forwards a port from one server to another.

Now we can do that where the ports do change or the ports can be the same, which is forwarding to another server, so we have that option as well.

Summary 5:27-5:28

In this demonstration, we showed you how to forward ports on a Linux firewall.
