

The following notes for the NET3012-IP Architectures and Solutions course are based on the Nokia MPLS (p/n 3HE02276AA) and Nokia Services Architecture (p/n 3HE02277AA) courses from the Alcatel-Lucent Service Routing Certification Program curriculum. These are copyrighted products of Nokia.

Post-Lab 1: MySRLab Connectivity

Or: How can I do all my other Post-lab work?

What you will do:

1. Confirm that you can successfully activate Nokia's Aventail remote access VPN
2. Confirm that you can successfully establish telnet connections within the VPN
3. Get the answers required to correctly answer the post-lab questions on BrightSpace
4. Re-do Lab 1 (if necessary) to be sure you understand the basic SR-OS CLI and configuring interfaces

Things that you will need to know or learn:

1. Your Nokia corporate login credentials, for accessing the MyNetworkLab booking page
2. The IP addresses used for your specific assigned MySRLab Practice Lab (PL) number (... Though you could just get a copy of the Auto-Login batch file from the course web site and not bother with remembering the addresses!)
3. The topology for the MySRLab Practice Lab setups, as shown on page 8 of "MySRLab Getting Started Guide". A copy is available from BrightSpace.

Estimated Time for Completion:

The first time through, count on taking up to 2 hrs or even 3 hrs to get everything working properly. Although some students have reported getting things working in ~20 mins; who knows, you could get lucky!

What you need to submit and when:

1. Complete the "Lab 1 Post-lab" quiz on BrightSpace, **before** Fri Jan 17 @ 8am

Required Equipment:

- Internet access, and possibly several browsers in order to find the one that works best!
- A terminal program; (eg. for MS-Win, PuTTY or better yet, a variant called KiTTY)
- Some patience and possibly a willingness to experiment

Marks:

Each of the pre-lab, in-lab and post-lab portions for Lab 1 are weighted equally, even though they may have a different number of points assigned to them.

10% of your final mark is for labs done during the course of the semester.

References and Resources:

- URL for Nokia Aventail VPN: <https://learningserviceslabs.nokia.com> (or in case of any hiccups, <https://training-ottawa1.alcatel-lucent.com>)
- The exact version number for your OS, your browser, and potentially your version of Java

Task 1: Book a MySRLab Session

You'll need to book a session in order to receive the email with login credentials for MySRLab. Remember, these credentials are the only ones that change every session; all other credentials are valid for the entire semester!

- Step 1. Use your Nokia credentials (or other credentials if instructed to do so by an email from Nokia's Learning Services) to login to: <https://src.alcatel-lucent.com/src/mynetworklab>
- Step 2. Hunt around until you find where you can book a session: follow the instructions at the top of page 7 in the Wk1Day1 lecture notes. Make sure you book at time when you'll have the time free and uninterrupted.
- Step 3. Wait for the confirmation email and credentials email from Nokia. Save these emails; you'll need them for the post-lab quiz on BrightSpace.

Task 2: Aventail Connection

The lab PC's in T108 work flawlessly with Nokia's implementation of the Aventail VPN, but it's most likely that your personal machine does *not* have an identical configuration. The purpose of this task is to find a suitable combination of browser, browser version, browser configuration, and possibly Java version which allows you to connect to Aventail.

Please note that it's entirely possible that you will need to try more than one browser to reliably get a successful connection.

- Step 1. It's entirely possible your existing configuration will "just work". Although you can start with whatever browser you normally use, previous experience has shown that using Internet Explorer is most straight-forward. (Use the 32-bit version: click the Windows "Start" button, and then type "iexplore.exe" to get it.)
- Step 2. Navigate to the Nokia VPN: <https://learningserviceslabs.nokia.com>
(or in case of any hiccups, <https://training-ottawa1.alcatel-lucent.com>)
- Step 3. For the service if using LearningServicesLabs, enter "student"
if using training-ottawa1..., enter "training"
Then, when you get to the next screen, enter your in-lab credentials.
- Step 4. Depending on which browser you're using, you may be asked to install/run a module for the VPN client and/or whether to run a Java program and/or an ActiveX module, and/or whether to Allow access. In all cases you'll need to allow/agree/run the requested item for connectivity to succeed. You will likely see **multiple** small windows pop up (under I.E. it's called Aventail Access Manager). Again, the exact sequence depends on the specific browser.
- Step 5. If all has gone well, you should ultimately get a window showing "Access: **Full Network Access**" at the top. If it just says "Access: Web" it won't work. If it doesn't go to a new window, or there's some other problem, you'll need to either try a different browser (start again at Step 1) or troubleshoot.

Note that on the T108 lab machines, it was necessary to run through the connection process **three** times (yes, thrice) with Internet Explorer and then it was successful. Each of the 3 times, it was necessary to completely shut all windows for IE and restart IE afresh.

Step 6. Please note that many (most? all?) the extra steps required above are a **one-time** process for installing the required VPN components. Re-establishing the VPN should be quite smooth and easy, just like your in-lab experience.

Step 7. Once you are successful, take a screenshot of the browser window and save it. Click "Details" in the very top right corner. Take a second screenshot and save it.

General Tips

Configuring your browser for correct operation with Avenail is probably the most critical. Firefox and Chrome will both work, but only certain versions of java are compatible with the current version of Avenail.

Tips for IE

You're most likely using Win 8-10 (though if you're running it as a VM, you'll likely have fewer problems if you use Win7 or even WinXP!) For Win 8-10, please be sure to check BrightSpace for the Win 8-10 "**fix**" files! The ReadMe.txt file contains important instructions; please **read it!**

During the initial install on the Prof's laptop, the Avenail Access Manager window (with the progress meter) appeared to hang about 2/3 of the way through. When that happened, I manually changed the URL back to the original setting, and then the connection sequence completed successfully. (I only use IE for Avenail, so I've set the home page to the URL in step 1; I just click the Home icon to get back!)

Task 3: Telnet Connectivity Verification

This task requires you to have successfully connected over the VPN. It verifies that you have proper VPN redirection of the subnets for reaching the lab equipment via Telnet.

Step 1. Telnet to one or more of the routers in the PL topology. (Remember: you can do it manually, or just use the auto-login batch file from the course web site.)

Step 2. If you get a "Login:" prompt, you know you have correct, full connectivity. If not, do some troubleshooting:

- double-check that you have correctly completed the task for the Avenail VPN.
- double-check that you used a suitable IP address and typed it correctly

Step 3. If you still don't get a login prompt, get some help from a classmate or see the Prof.

Step 4. Login using the required credentials. (Don't know what they are? Please go back to the last page in Lab 1 pre-lab, or Lab 1 in-lab. They're definitely there!)

Step 5. If you still can't login, get some help from a classmate or see the Prof.

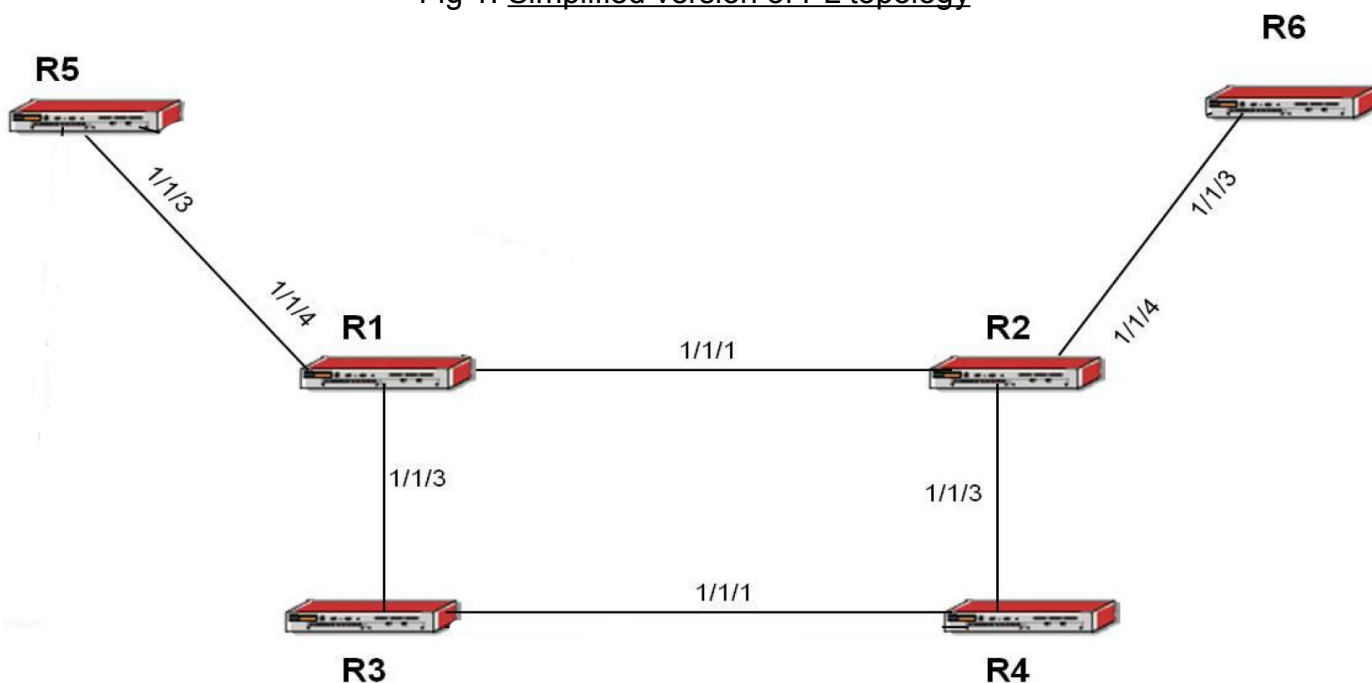
Step 6. Copy and save the output from the "**show version**" command. You'll need it when answering a couple of questions in the post-lab quiz on BrightSpace.

Task 4: Re-Do Lab 1 – Static Routing [Optional but highly encouraged!]

If your team didn't successfully complete the static routing for *full* reachability throughout the network, repeat it using the simplified version of the MySRLab topology shown below. Doing this will help familiarize yourself with the topology we'll be using for the rest of the weekly postlab exercises! ... and if you got this far, you might as well make some use of your MySRLab booking!

- Configure IP addresses on all the links, as well as on the **system** interface of every router.
- Use the same addressing scheme as for Lab 1-inLab (inter-Rtr links = 10.{lower Rtr}.{higher Rtr}.0/24; **system** interface = 10.10.10.{Rtr #}/32)
- Configure the default static routes in a clockwise loop around the core ring: R1 → R2 → R4 → R3
- You can be pretty sure everything is done correctly if you can ping the **system** interface on R6 from R5 and vice versa.
- If you *think* you understand networking here's a challenge:
 - traceroute from R5 to the system interface on every other router. Make sure you understand and agree with the routing.
 - Repeat the above except using ping instead of traceroute. Look at the TTL. How many hops away is each router? Do the results agree between ping and traceroute? Why or why not?

Fig 1: Simplified version of PL topology



Task 5: Answer the Post-lab questions on BrightSpace

Head over the BrightSpace and answer the post-lab questions. Hopefully you read & followed the instructions carefully and saved all the info you'll need! If you've lost it, you should be able to repeat the steps successfully in ~3 mins or less!