

Redes de Computadores - RECOMP – 2025/2026

1. Project Guidelines

1.1. Project teams

In order to create teams, the laboratory class will be separated into groups of three or four students, with the condition that all team members must be from the same laboratory class.

1.2. RECOMP sprints

The RECOMP Project is organized in 3 sprints, each with a duration of four or five weeks:

Table 1 – RECOMP sprints

RECOMP PROJECT	SPRINT START	SUBMISSION DEADLINE
Sprint 1	15-09-2025	19-10-2025
Sprint 2	20-10-2025	12-11-2025
Sprint 3	10-11-2025	14-12-2015

1.3. Sprint presentation

After the sprint deadline, each team will give a 15-minute presentation during the next laboratory class to the teacher. The presentation must include a live demo.

1.4. Deliverables

- Packet trace file
- Configurations files
- Sprint Report.

2. Project Description – Sprint 2

Routing configuration between branches

Check the routing table and statically configure a default route with the same gateway received from the DHCP server in Oporto and Warsaw routers.

Configure default routes in both MLSs pointing to the Oporto router interfaces and do the same for Warsaw MLS3, MLS4 and MLS5.

GRE configuration

Define three IP address subnets with a /30 mask from the 10.0.0.0/8 network, one for each connection between Oporto/Warsaw, Oporto/Munich and Oporto/The Vault.

To establish direct connections between the HQ and the Warsaw, Munich and the Vault branches to bypass public Internet routing for internal traffic. Configure a GRE tunnels between Oporto-Warsaw, Oporto-Munich and Oporto/The Vault using the three subnets created previously.

OSPF Configuration

Configure the OSPF router-id in the Oporto and Warsaw routers to 1.1.1.1 and 2.2.2.1 respectively. In the Oporto the MLSs configure the following router-ids MLS1 1.1.1.2 e MLS2 1.1.1.3. In Warsaw the MLSs configure the following router-ids MLS3 2.2.2.2 e MLS4 2.2.2.2 and MLS5 2.2.2.3.

Configure OSPF in Oporto attaching the previously created tunnel interface to Warsaw to area 0 and Oporto's local networks to area 1. Don't forget to configure OSPF in Oporto's MLSs.

Configure OSPF in Warsaw attaching the previously created tunnel interface to Oporto to area 0 and Warsaw's local networks to area 2.

EIGRP Configuration

Configure EIGRP in the Oporto tunnel interface, Munich's tunnel interface, and local networks. Do the same for the Vault.

Configure Routing redistribution in Oporto between OSPF and EIGRP to achieve full connectivity.

Test connectivity between the hosts in different locations.

PAT Configuration

Configure PAT to allow all users to access the INTERNET.

Test connectivity between hosts and Google.

Port Security Configuration



The Warsaw branch reported a security breach, unauthorised personnel had access to one of the available ports in the branch. As a result, the RECOMP Corporation has decided to implement port security in every branch.

Security Breach Report

Configure and activate port security to shutdown the interface if more than 2 MAC addresses are registered in an individual interface for VLAN 10, 20, 30, and 40. Make sure that the interface registers every MAC address that is recognised.

ACLs

Block all spoofing, as far as possible in all the routers (Oporto, Warsaw, Munich). Internal spoofing from local networks. External spoofing in traffic incoming from the Internet.

All traffic directed to the routers (with a destination IPv4 node address belonging to the routers) is to be blocked, except for the traffic required for the current features to work (GRE, DHCP, OSPF, EIGRP, among others...).

The remaining traffic passing through the router should be allowed.

• Table 2 – Address, VTP domain and DHCP domain

Class	Team number (Within class)	IPv4 address space to be used for Oporto	IPv4 address space to be used for Warsaw	IPv4 address space to be used for Munich	IPv4 address space to be used for the vault	VTP domain	DHCP domain
M1A	1	10.16.24.0/22	192.168.172.0/23	172.30.54.0/23	10.31.76.0/24	RECOMP2526M1A01	RECOMP2526M1A01.recomp.com
	2	10.17.28.0/22	192.168.170.0/23	172.29.56.0/23	10.31.77.0/24	RECOMP2526M1A02	RECOMP2526M1A02.recomp.com
	3	10.18.32.0/22	192.168.168.0/23	172.28.58.0/23	10.31.78.0/24	RECOMP2526M1A03	RECOMP2526M1A03.recomp.com
	4	10.19.36.0/22	192.168.166.0/23	172.27.60.0/23	10.31.79.0/24	RECOMP2526M1A04	RECOMP2526M1A04.recomp.com
	5	10.20.40.0/22	192.168.164.0/23	172.26.62.0/23	10.31.80.0/24	RECOMP2526M1A05	RECOMP2526M1A05.recomp.com
	6	10.21.44.0/22	192.168.162.0/23	172.18.78.0/23	10.31.81.0/24	RECOMP2526M1A06	RECOMP2526M1A06.recomp.com
	7	10.22.48.0/22	192.168.160.0/23	172.17.80.0/23	10.31.82.0/24	RECOMP2526M1A07	RECOMP2526M1A07.recomp.com
M1B	1	10.23.52.0/22	192.168.176.0/23	172.25.64.0/23	10.31.83.0/24	RECOMP2526M1B01	RECOMP2526M1B01.recomp.com
	2	10.24.56.0/22	192.168.174.0/23	172.24.66.0/23	10.31.84.0/24	RECOMP2526M1B02	RECOMP2526M1B02.recomp.com
	3	10.25.60.0/22	192.168.158.0/23	172.23.68.0/23	10.31.85.0/24	RECOMP2526M1B03	RECOMP2526M1B03.recomp.com
	4	10.26.64.0/22	192.168.156.0/23	172.22.70.0/23	10.31.86.0/24	RECOMP2526M1B04	RECOMP2526M1B04.recomp.com
	5	10.27.68.0/22	192.168.154.0/23	172.21.72.0/23	10.31.87.0/24	RECOMP2526M1B05	RECOMP2526M1B05.recomp.com
	6	10.28.72.0/22	192.168.152.0/23	172.20.74.0/23	10.31.88.0/24	RECOMP2526M1B06	RECOMP2526M1B06.recomp.com
	7	10.29.74.0/22	192.168.150.0/23	172.19.76.0/23	10.31.89.0/24	RECOMP2526M1B07	RECOMP2526M1B07.recomp.com