

COM-402 exercises 2025, session 9:

Network Security

Exercise 9.1

Consider the following two options for letting remote users access your company's e-mail:

- They use a VPN access to the company's network. Then, they can use their preferred mail client to access the mail server of the company.
- You install a web server with a web-mail program (like ewa.epfl.ch) such that the users can access their e-mail with any web browser.

Which of the two options is more secure? Why?

Exercise 9.2

Which option is safer:

- Specifying what is forbidden (deny list) and allowing the rest.
- Specifying what is allowed (allow list) and denying the rest.

Explain why.

Exercise 9.3

- Describe the difference between a (direct) proxy and a reverse proxy.
- Describe one security related function that each proxy can provide.

Exercise 9.4

The web proxy of your company keeps a log of all connections that are made to all websites.

- Describe a situation where these logs can be used to help secure the company's network.
- Describe a situation where these logs could be a problem for the company's security.

Exercise 9.5

Describe a possible Disaster Recovery Plan (DRP) that will make possible to start over after your data center has burned down.