



EuroSkills 2025 – IT Network Systems Administration

National Semi-final

Module B

16th March 2024

God eftermiddag!

First of all, congratulations for configuring our sites in the previous stage. The engineers were impressed at Lego and as such, they asked for your expertise in another project.

This project, however, is not just a networking one. Instead, you have to configure their server infrastructure as well as their networking devices.

In this part of the project, you will be provided with some pre-configured servers in the HQ but everything else needs to be configured.

Remember to test every change you make, create snapshots before making changes and save all your work.

Our servers

- **HQ-MAIN:** Windows Server, IPv4 address: 172.16.0.1/25
- **HQ-CS:** Windows Server, IPv4 address: 172.16.0.2/25
- **HQ-DHCP:** Debian, IPv4 address: 172.16.0.3/25
- **HQ-CLIENT-L:** Debian, IPv4 address: DHCP
- **HQ-CLIENT-W:** Windows 10, IPv4 address: DHCP

The gateway is the last IPv4 address in the subnet.

Our domain name: lego.local

Pre-installed services

- **HQ-DHCP:** Apache2, preconfigured with our website
- **HQ-AD:** AD DS, preconfigured with our domain

Users

Username	Full Name	Group
anders.isaksen	Anders Isaksen	Site Admin
emil.klausen	Emil Klausen	Accountant
cecilie.therkildsen	Cecilie Therkildsen	Accountant
astrid.due	Astrid Due	Production

Your tasks

If not asked, the default password is: **Skills2025!**

HQ-MAIN

1. While AD DS is installed and preconfigured, we need to create OUs for different roles. Our roles:
 - a) Site Admin
 - b) Accountant
 - c) Production
 - d) Office
2. For every OU there should be a security group. Please note, "Site Admin" group should have the same privileges as Domain Administrators. Also, add our existing users to their respective groups.
3. The group "Accountant" should be part of the "Office" group.
4. Create the necessary DNS records.
5. Create directories:
 - a) C:\Company_Data
 - b) C:\Company_Data\IT – only "Site Admin" members can access it.
 - c) C:\Company_Data\Lego_Manuals – "Production" members can write into it, "Office" members can only read it.
 - d) C:\Company_Data\Finance – only "Accountant" members can access it.
 - e) C:\Company_Data\Documents – "Site Admin" members can write into it, everyone else in the domain can only read it.
6. Install FSRM and configure it as described:
 - a) C:\Company_Data\IT – files with .exe are not allowed. Files with .ps1 and .bat files are allowed.
 - b) C:\Company_Data – no .ps1 or .bat files are allowed.
 - c) C:\Company_Data\Finance – only .xls and .xlsx extensions are allowed.
 - d) C:\Company_Data\Lego_Manuals - maximum size of this directory is 200MB, send an alert if this directory reaches 150MB and 175MB.
 - e) Create logs for every alert.

HQ-CS

1. Install Active Directory Certificate Services and configure it as described:
 - a) This CA should not be independent from the domain.
 - b) Key length should be 4096.
 - c) CA name should be "root.lego.local".
 - d) Validity Period should be 1 year.
2. Create a template for web servers where the subject name comes from the request.
3. Ensure that only known hosts can access the server.

HQ-DHCP

1. Install a DHCP service and configure it as described:
 - a) Domain name should be provided to clients.
 - b) DNS server is HQ-MAIN
 - c) The first 10 should not be leased to clients.
 - d) Ensure that the Debian client will get the last available address.
 - e) Maximum lease time is 2 hours.

2. Ensure that NFtables is installed and configure rules as described:
 - a) Allow FTP access only from our network.
 - b) Incoming ICMP packets are to be dropped, the only exception is HQ-MAIN.
 - c) Web access is limited to known hosts.
 - d) Log all dropped packets.
 - e) Ensure that the rules are applied after reboot and the service should automatically start.

HQ-CLIENT-L

1. Join the client to the domain.

HQ-CLIENT-W

2. Join the client to the domain.

Congratulations, you have configured every service in this part of the project!

