

CST8246 Practice Lab Test – 25F

~ ALL SERVICES SHOULD BE CONFIGURED, VALIDATED AND TESTED VIA SCRIPTS. YOU MAY IMPLEMENT EACH SERVICE ONCE ONLY ~

Setup Requirements

- **Fresh Install:** Set up before the exam and run dnf update. A clean installation is required.
 - **User Account:** Create a user **lab** with password **test**. Verify SSH login using password authentication.
 - **Static IP Setup:** Set the hostname as used in the lab. Configure an alias interface 172.16.32.MN.
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Minor Services (Select TWO)

1. SSH

Set up user access to your server with both password and PublicKey authentication.

- Password access when ssh lab@172.16.30.MN
- PublicKey access when ssh foo@172.16.30.MN
- Ensure both authentication methods are functional.

2. Firewall / Netcat (NC)

Set up NC listening on port 49876. Allow access from the client network and reject all other sources.

- Server: nc -vl 172.16.30.167 49876
- Client: nc -v 172.16.30.167 49876 → should connect
- Server → Server connection should be refused.

3. DNS

Configure a cache-only DNS server. Allow queries only from the client network (172.16.31.0/24).

Verify using dig www.yahoo.com on the client.

Major Services (Select ONE)

4. SSH

Configure SSH for user and root access using PublicKey authentication only, from client user cst8246.

- ssh foo@172.16.30.MN
- ssh lab@172.16.30.MN
- ssh root@172.16.30.MN

5. Firewall / Netcat (NC)

Set up NC listening on port 55765. Allow access from the ALIAS and SERVER networks, and reject connections from the client network.

- Ncat: Connection from 172.16.30.MN → allowed
- Ncat: Connection from 172.16.32.MN → allowed
- Client → Server connection should be refused.
Document firewall rules using firewall-cmd --list-all.

6. DNS

Set up ns1.happy.lab with its forward zone on the server (172.16.30.MN). Allow queries from client and server networks.

Verify from both client and server using:

- dig ns1.happy.lab

Marking Scheme

- Setup: 0 marks (required before starting the exam)
 - Two minor services: 2 marks each (4 total)
 - One major service: 4 marks
- Total = 8 marks**