

# Networking II Challenge Submission File

## In a Network Far, Far Away!

Make a copy of this document to work in, and then for each mission, add the solution below the prompt. Save and submit this completed file as your Challenge deliverable.

#### Mission 1

1. Mail servers for starwars.com:

```
alt2.aspmx.l.google.com
aspmx3.googlemail.com
aspmx.l.google.com
aspmx2.googlemail.com
alt1.aspx.l.google.com
```

2. Explain why the Resistance isn't receiving any emails:

The Resistance is not receiving any emails due to the fact that their MX record is not set to the correct primary and secondary mail servers.

3. Suggested DNS corrections:

```
The mail servers should be changed to reflect the correct servers: starwars.com mail exchanger = 1 asltx.1.google.com
Starwars.com mail exchanger = 5 asltx.2.google.com (secondary)
```

#### Mission 2

1. Sender Policy Framework (SPF) of theforce.net:

```
"v=spf1 a mx a:mail.wise-advice.com mx:smtp.secureserver.net include:aspmx.googlemail.com ip4:45.63.15.159 ip4:45.63.4.215 ~all"
```

2. Explain why the Force's emails are going to spam:

It is likely due to the fact that theforce.net changed the IP address of their mail server to 45.23.176.21 while the network was down. According to the SPF of theforce.net, the only servers configured to send emails for the domain are the ones with the listed Ips: 45.63.15.159 and 45.63.4.215. It appears that the SPF has not been updated to reflect the IP change, hence the Force's emails end up going to spam.

3. Suggested DNS corrections:

The new IP address (45.23.176.21) should be added to the SPF. Furthermore, it should be determined if the existing two IP addresses are still relevant, or whether they should be removed.

#### Mission 3

1. Document the CNAME records:

```
nslookup -type=cname www.theforce.net
Server: 2607:f798:18:10:0:640:7125:5204
Address: 2607:f798:18:10:0:640:7125:5204#53
Non-authoritative answer:
www.theforce.net canonical name = theforce.net.
```

2. Explain why the subpage resistance.theforce.net isn't redirecting to theforce.net:

When checking for the CNAME of resistance.theforce.net, we receive the following message: \*\* server can't find resistance.theforce.net: NXDOMAIN

It is possible that the domain is offline due to server issues, or it could be compromised in some way.

3. Suggested DNS corrections:

```
The CNAME record should be reconfigured to read:
resistance.theforce.net canonical name = theforce.net
```

#### Mission 4

1. Confirm the DNS records for princessleia.site:

```
nslookup -type=ns princessleia.site

Server: 2607:f798:18:10:0:640:7125:5204

Address: 2607:f798:18:10:0:640:7125:5204#53

Non-authoritative answer:

princessleia.site nameserver = ns26.domaincontrol.com.

princessleia.site nameserver = ns25.domaincontrol.com.
```

2. Suggested DNS record corrections to prevent the issue from occurring again:

```
To prevent the issue from recurring, the backup DNS server for princessleia.site, ns2.galaxybackup.com, should be added to the backup server reference.
```

#### Mission 5

- 1. Document the shortest OSPF path from Batuu to Jedha:
  - a. OSPF path:

```
Batuu - D - C - E - F - J - I - L - Q - T - V - Jedha
```

b. OSPF path cost:

```
1 + 2 + 1 + 1 + 1 + 1 + 6 + 4 + 2 + 2 + 2
= 23
```

### Mission 6

1. Wireless key:

dictionary

- 2. Host IP addresses and MAC addresses:
  - a. Sender MAC address:

00:13:ce:55:98:ef

b. Sender IP address:

172.16.0.101

c. Target MAC address:

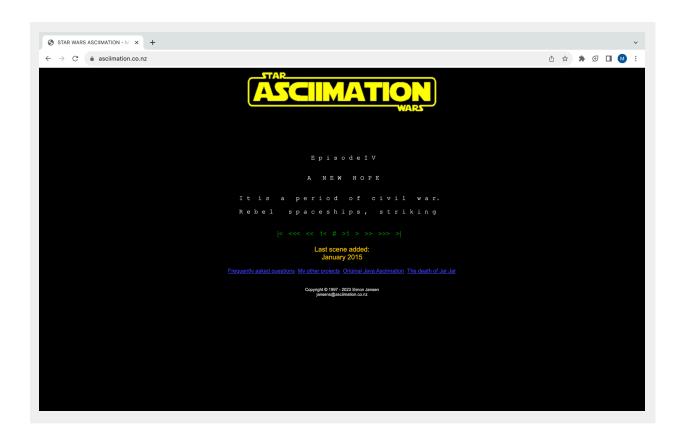
00:0f:66:e3:e4:01

d. Target IP address:

172.16.0.1

### Mission 7

1. Screenshot of results:



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