

# System dokumentation



2 revisionsfirmaer, Munkebjerg revision og Skibhus revision, i Odense tænker på at blive fusioneret. Inden dette bliver en realitet, vil de starte med at samarbejde omkring administration og revisorerne.

## Indhold

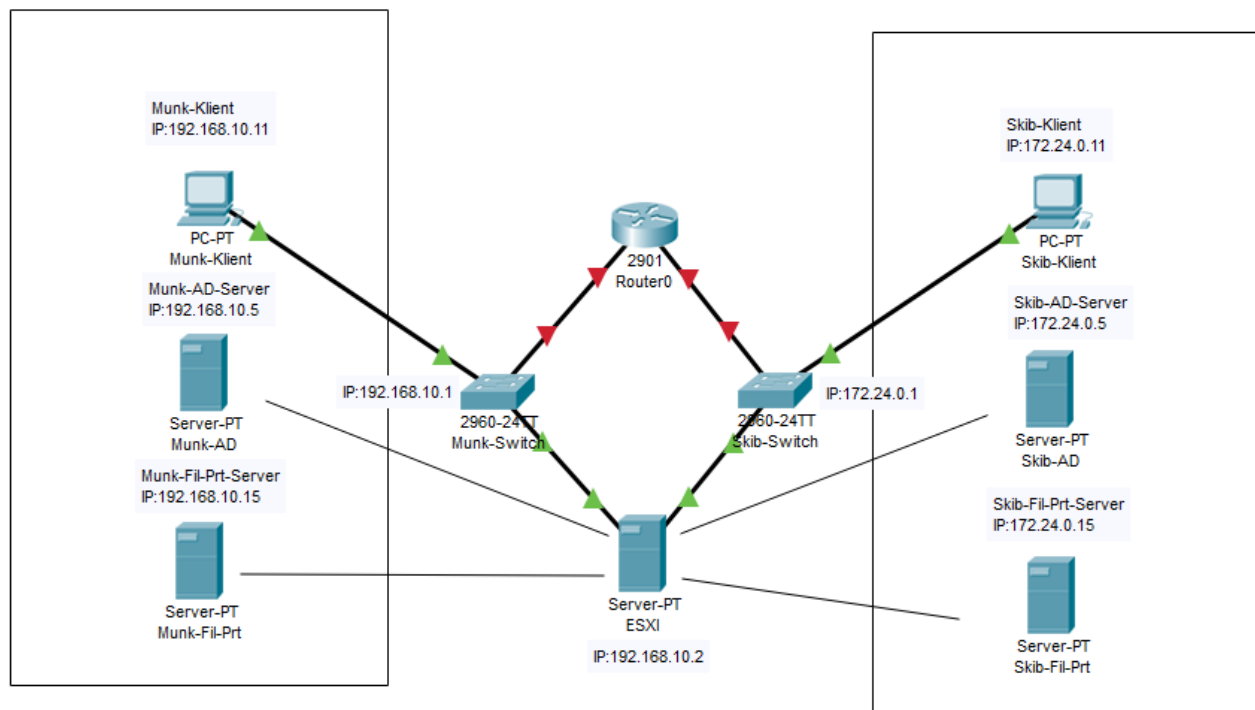
Fase 1.....	3
Router opsætning.....	4
ESXI .....	5
MunkAD.....	6
SkibAD.....	9
MunkFp.....	12
SkibFp .....	13
Trust.....	14
Fase 2.....	15
Router opsætning.....	16
Switch opsætning .....	18
EXSI .....	20
MunkAD1.....	21
MunkAD2.....	25
MunkFP.....	27
Klient PC.....	30
Admin PC .....	<b>Fejl! Bogmærke er ikke defineret.</b>

# Fase 1

## Ip planen for fase 1

1	<b>Munkebjerg:</b>					
2	<b>Netværksadresse</b>	<b>Broadcast</b>	<b>Brugbare ip</b>			
3	192.168.10.0	192.168.10.255	192.168.10.1-254			
4						
5	<b>Skibhus:</b>					
6	<b>Netværksadresse</b>	<b>Broadcast</b>	<b>Brugbare ip</b>			
7	172.24.0.0	172.24.0.255	172.24.0.1-254			
8						
9						
10	<b>Navn/Subnet</b>	<b>Ip adresse</b>	<b>Vlan</b>	<b>Gateway</b>	<b>Subnetmask</b>	<b>Prefix</b>
11	ESXI	192.168.10.2		192.168.10.1	255.255.255.0	/24
12						
13	<b>Munkebjerg</b>					
14	(Routernavn)GI0/0 (Munkebjerg)	192.168.10.1			255.255.255.0	/24
15	Munk-AD-server	192.168.10.5		192.168.10.1	255.255.255.0	/24
16	Munk-fil-print-server	192.168.10.15		192.168.10.1	255.255.255.0	/24
17	Klient PC (Munk)	192.168.10.11		192.168.10.1	255.255.255.0	/24
18		DHCP: 192.168.10.51				
19	<b>Skibhus</b>					
20	(Routernavn)GI0/1 (Skibhus)	172.24.0.1			255.255.255.0	/24
21	Skib-AD-server	172.24.0.5		172.24.0.1	255.255.255.0	/24
22	Skib-fil-print-server	172.24.0.15		172.24.0.1	255.255.255.0	/24
23	Klient PC (Skib)	172.24.0.11		172.24.0.1	255.255.255.0	/24
24		DHCP: 172.24.0.51				

## Netværks topologi for fase 1



# Router opsætning

Enable/Show running-config

```
User Access Verification

Password:
rl>enable
Password:
rl#show runn
rl#show running-config
Building configuration...

Current configuration : 1412 bytes
!
! Last configuration change at 12:10:55 UTC Thu Feb 14 2019
!
version 15.4
```

enable secret

```
!
enable secret 5 $l$7hlu$m7vnLF3gqnIR5SBRRcg5R.
!
no aaa new-model
!
```

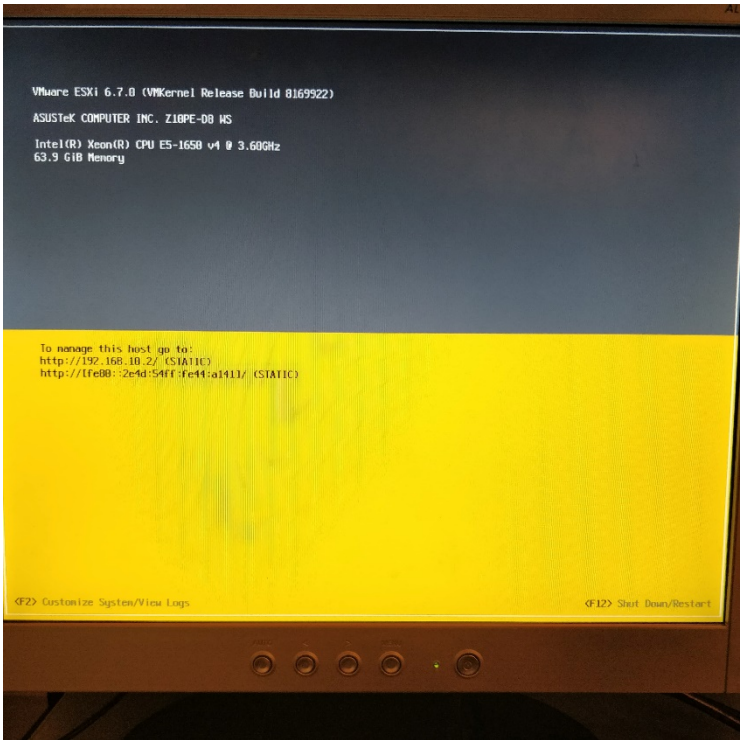
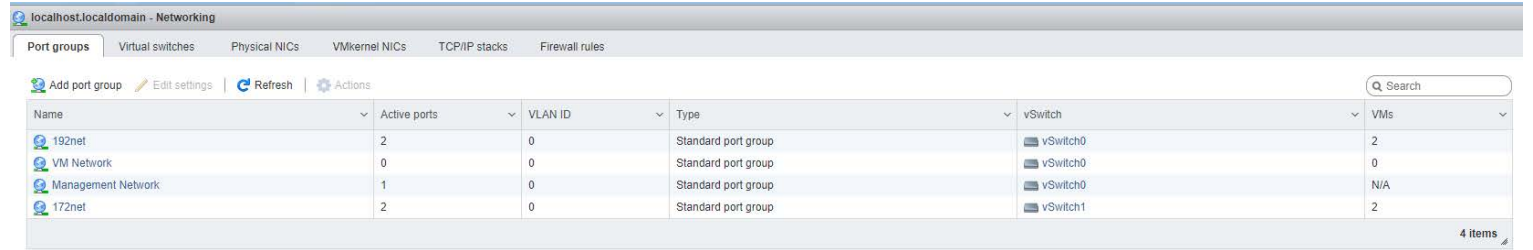
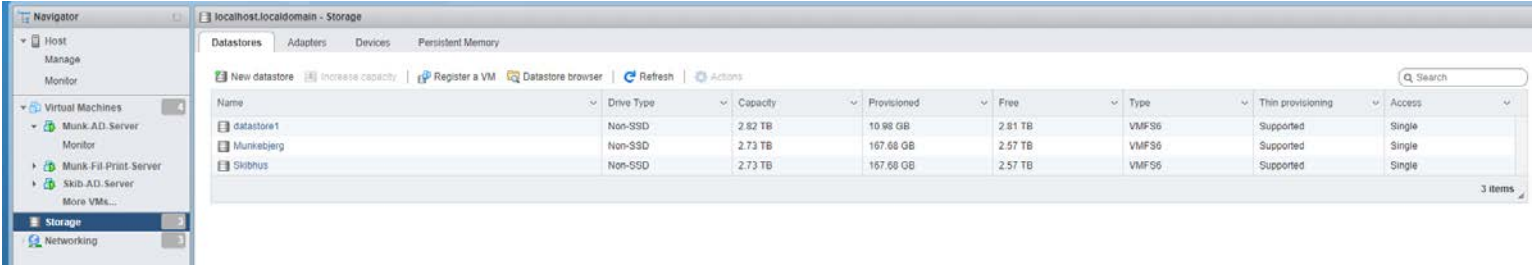
interface configuration

```
!
interface GigabitEthernet0/0
 ip address 192.168.10.1 255.255.255.0
 duplex auto
 speed auto
!
interface GigabitEthernet0/1
 ip address 172.24.0.1 255.255.255.0
 duplex auto
 speed auto
!
```

telnet opsætning

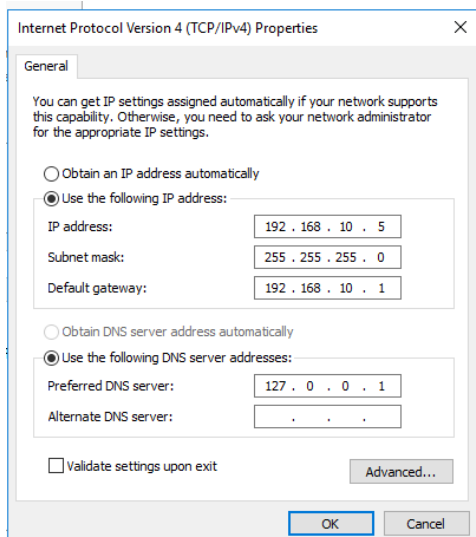
```
!
line vty 0 4
 password Password1
 login
 transport input telnet
line vty 5 15
 password Password1
 login
 transport input telnet
!
```

# ESXI

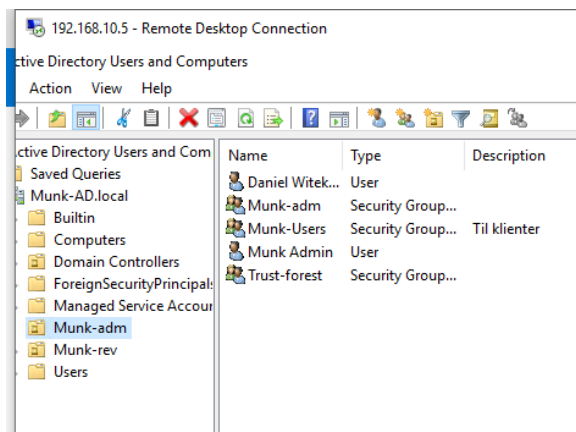


# MunkAD

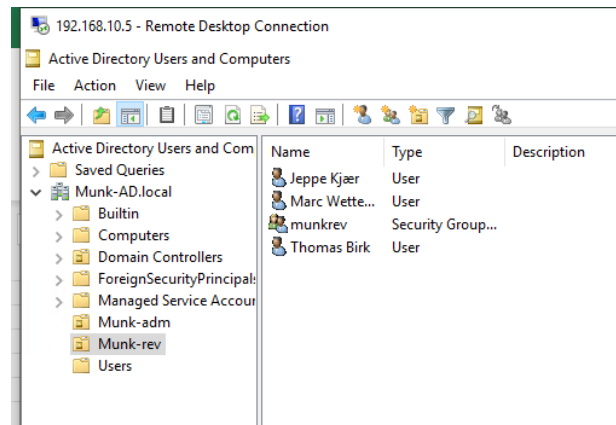
## Statisk ip opsætning



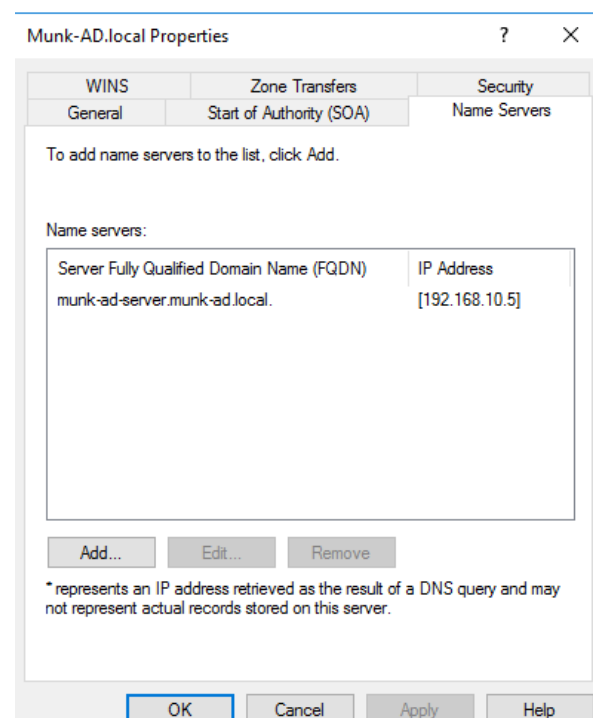
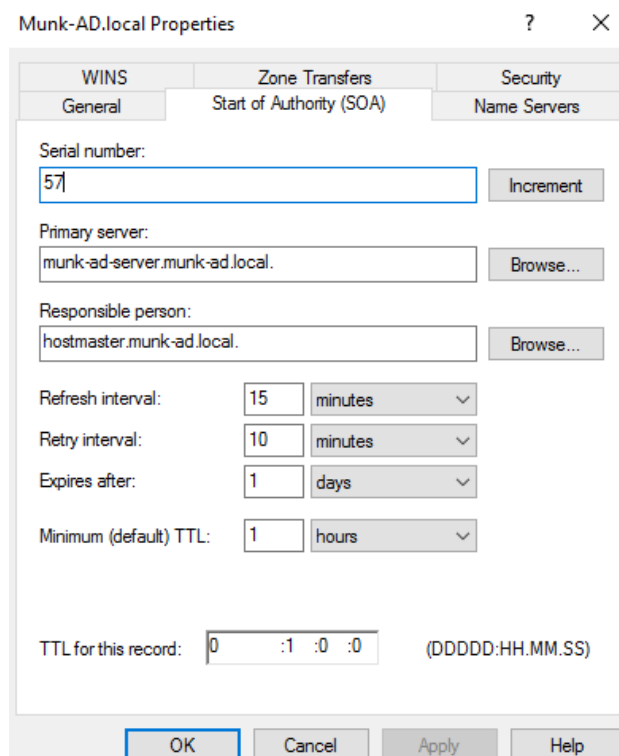
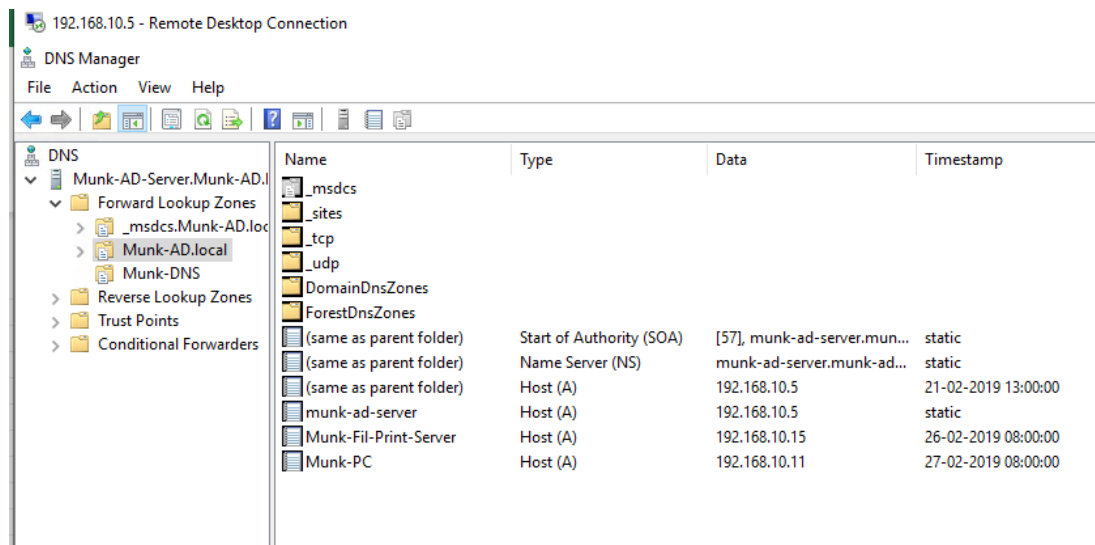
## Administrationsbrugere



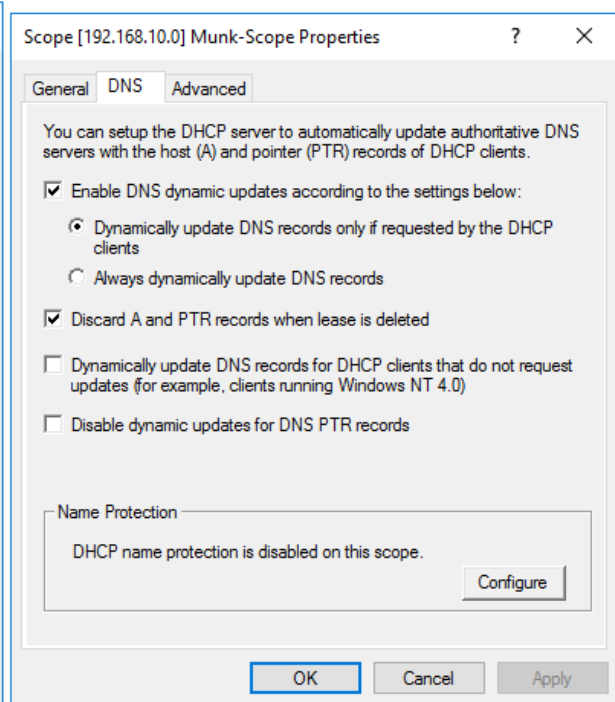
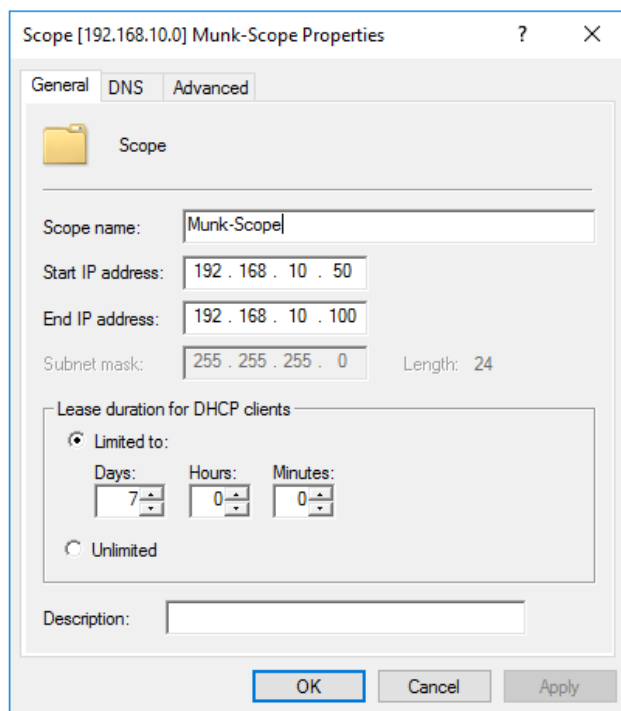
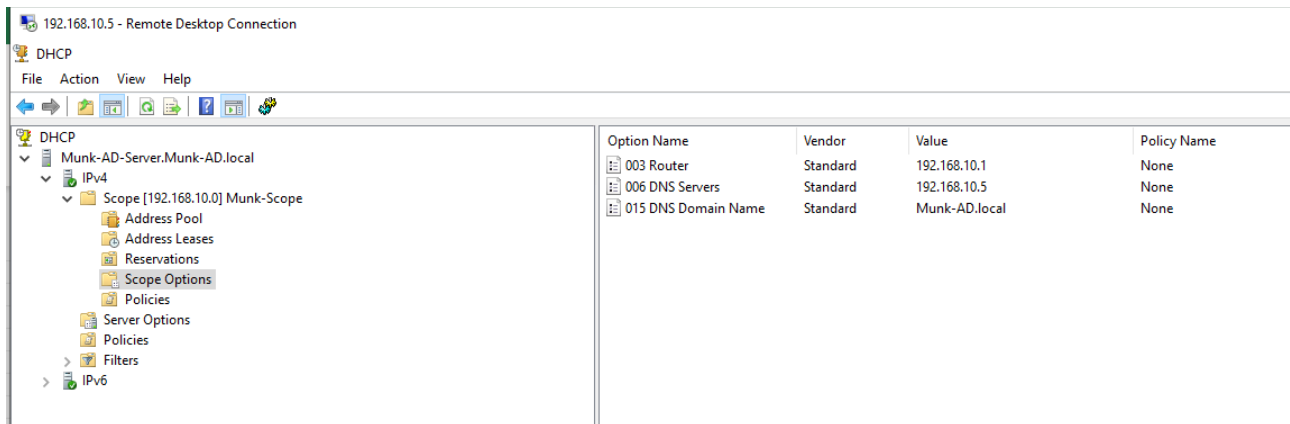
## Revisionsbrugere



## DNS opsætning. SOA og name server



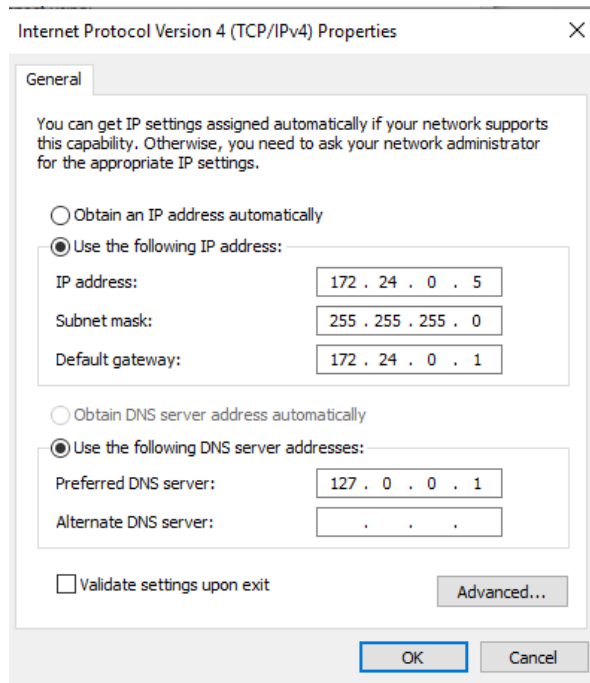
## DHCP. Scope properties and options



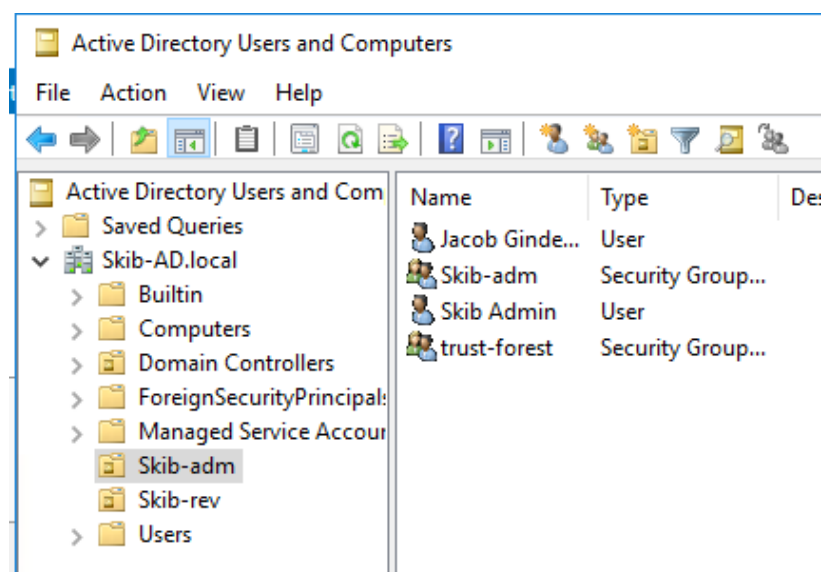


# SkibAD

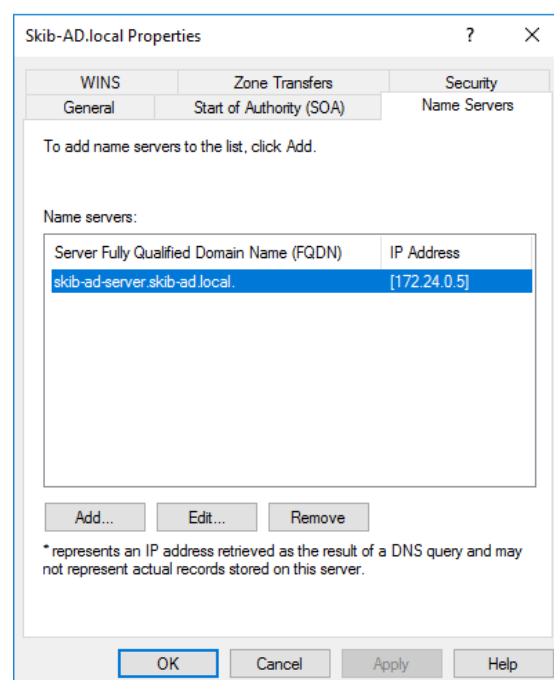
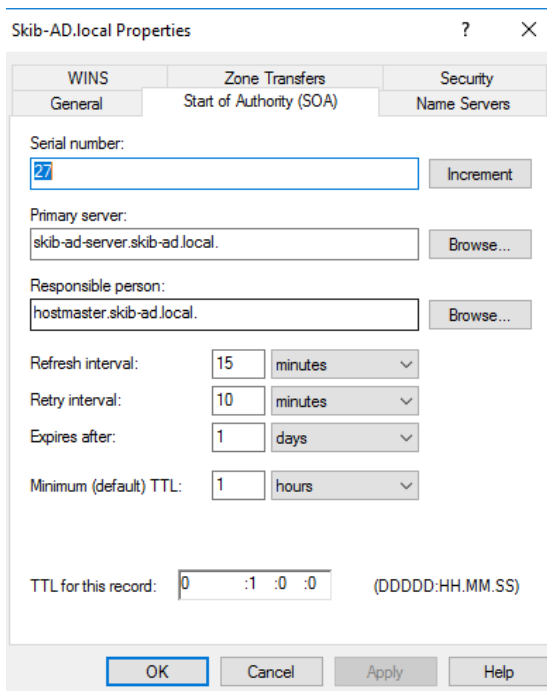
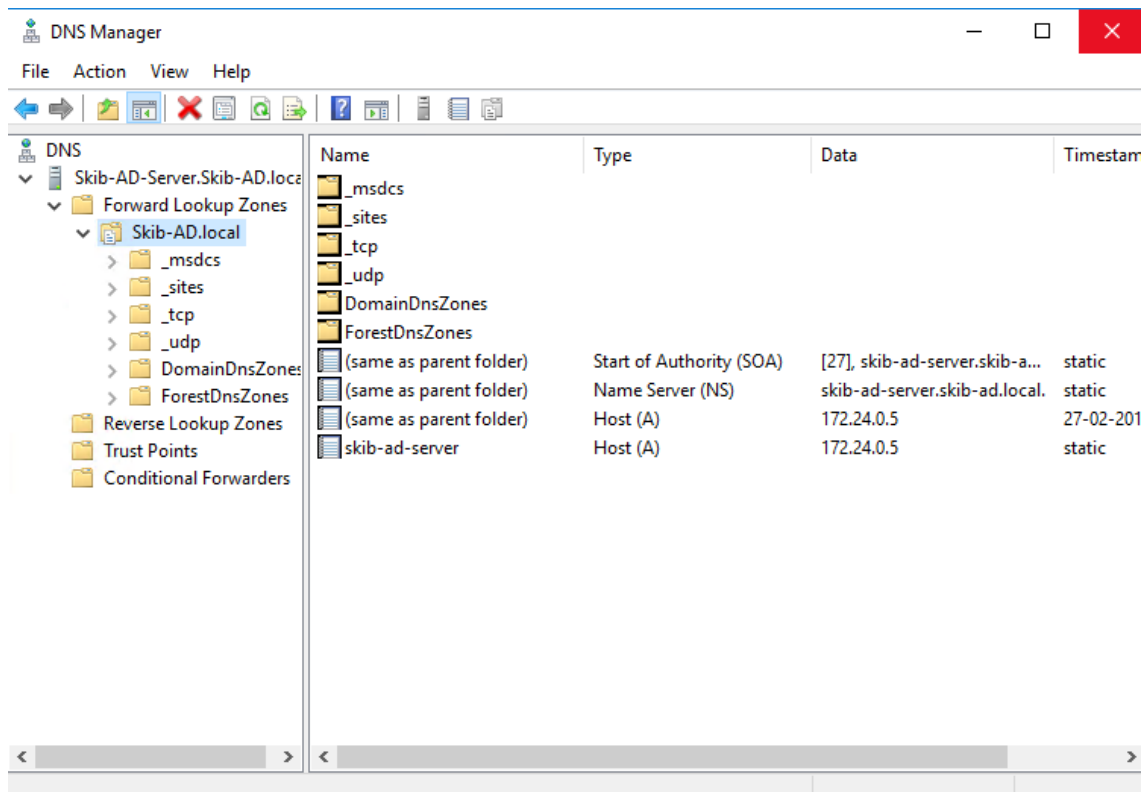
## Statisk ip opsætning



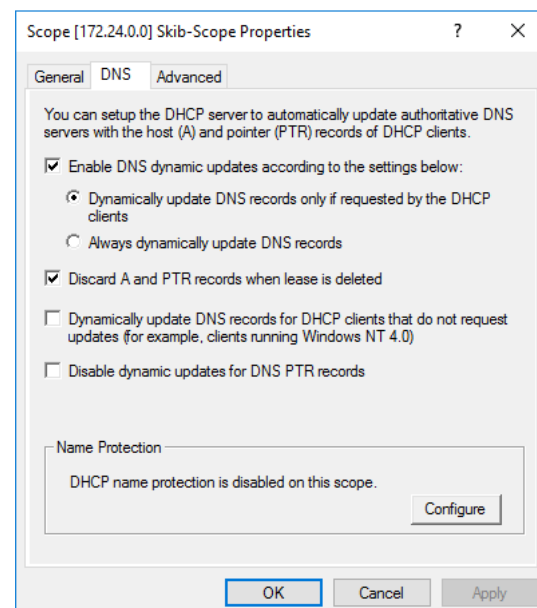
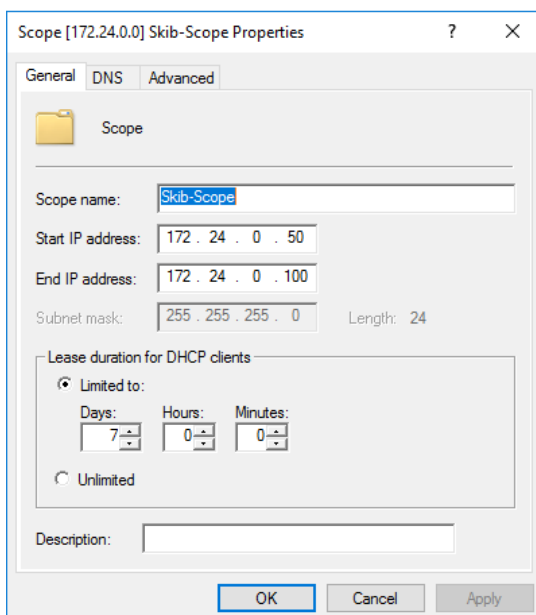
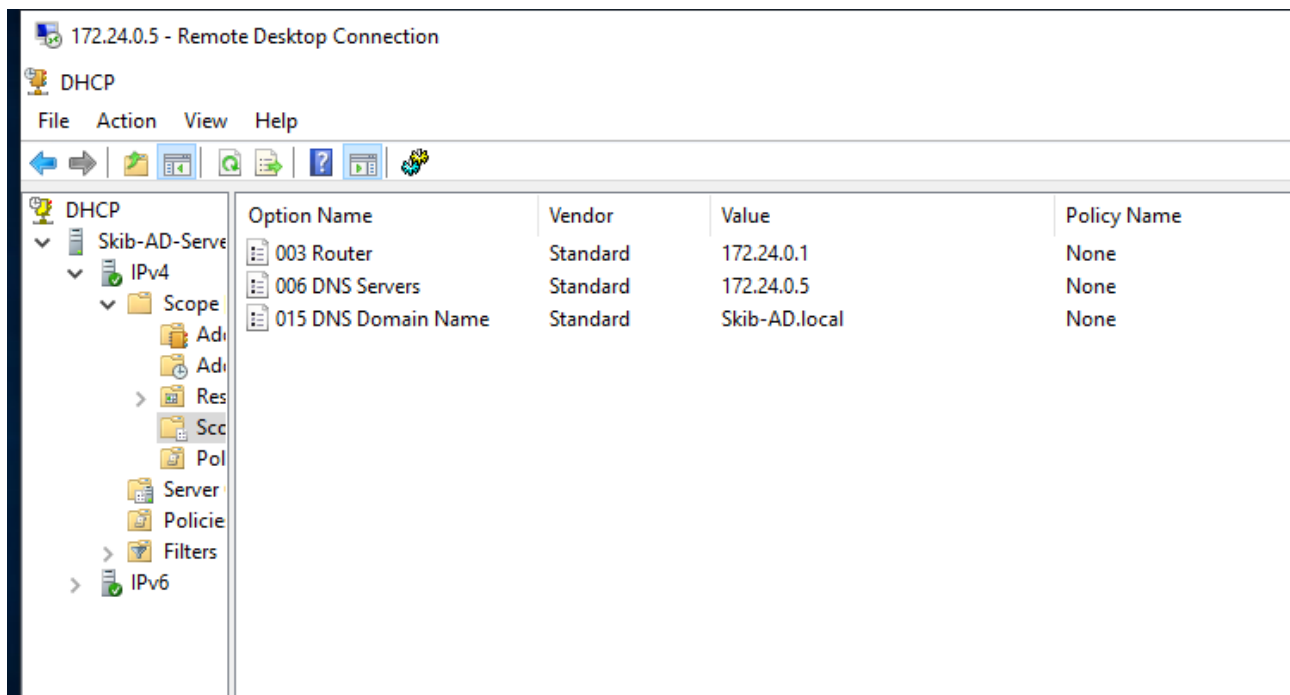
## Administrationsbrugere



## DNS opsætning. SOA og name server

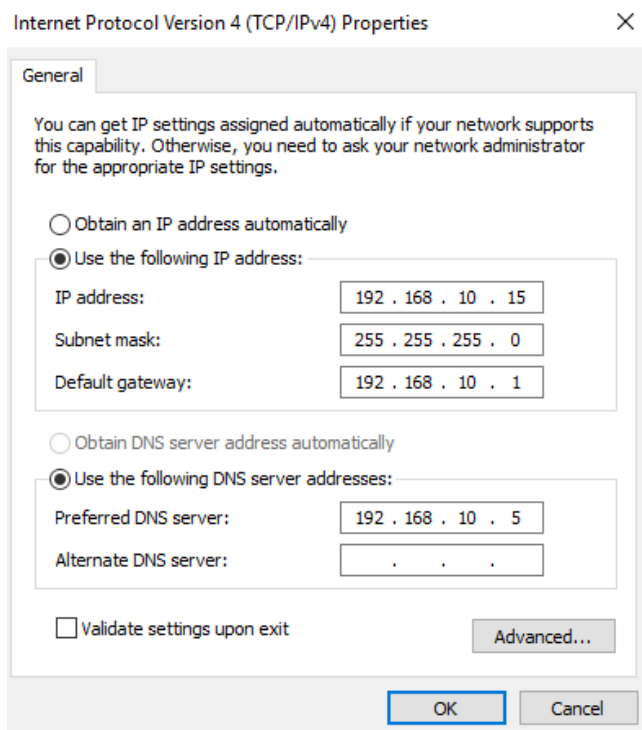


## DHCP. Scope properties and options

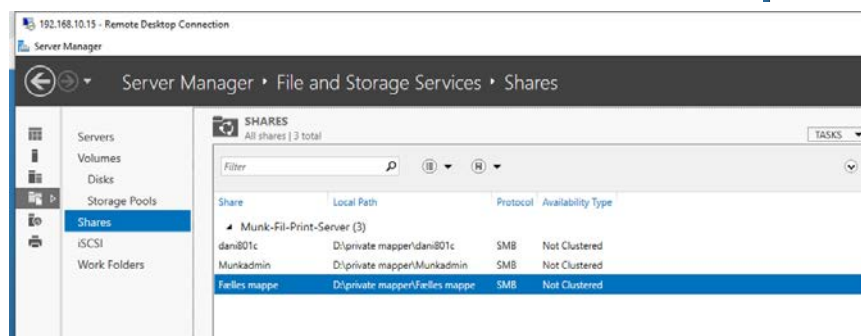
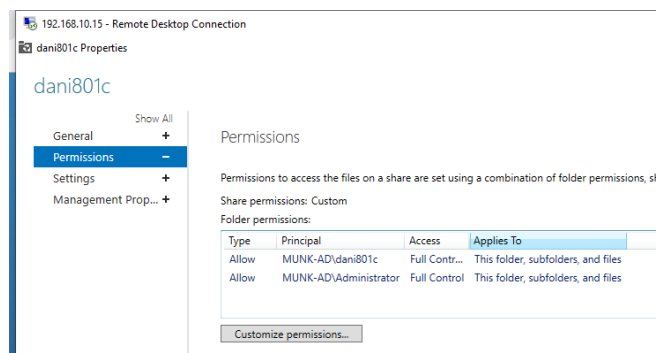
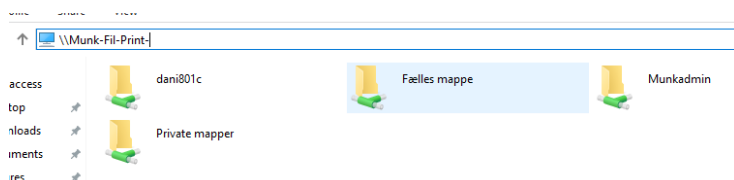


# MunkFP

## Statisk ip opsætning

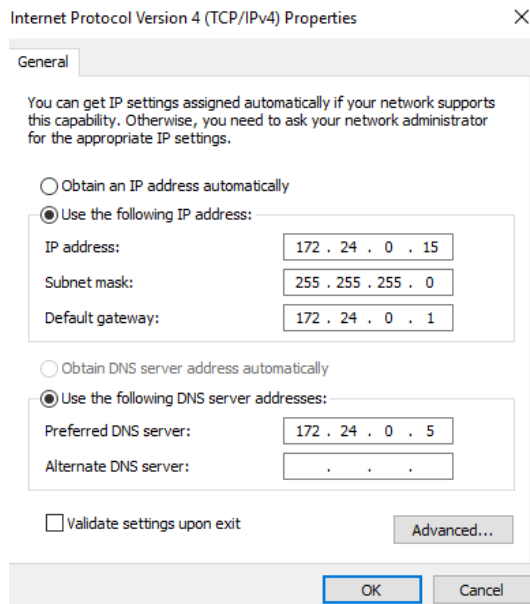


## Mapper og rettigheder

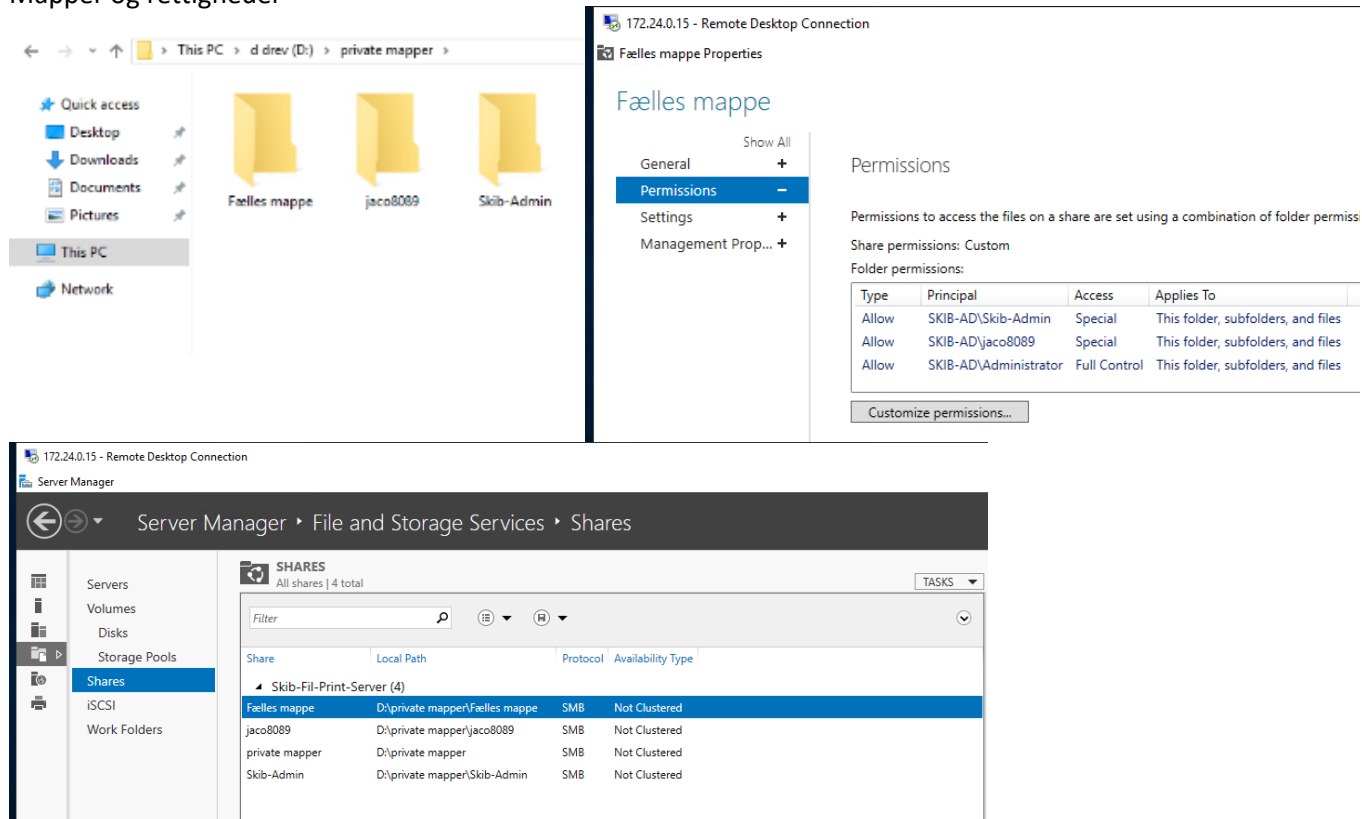


# SkibFP

## Statisk ip opsætning

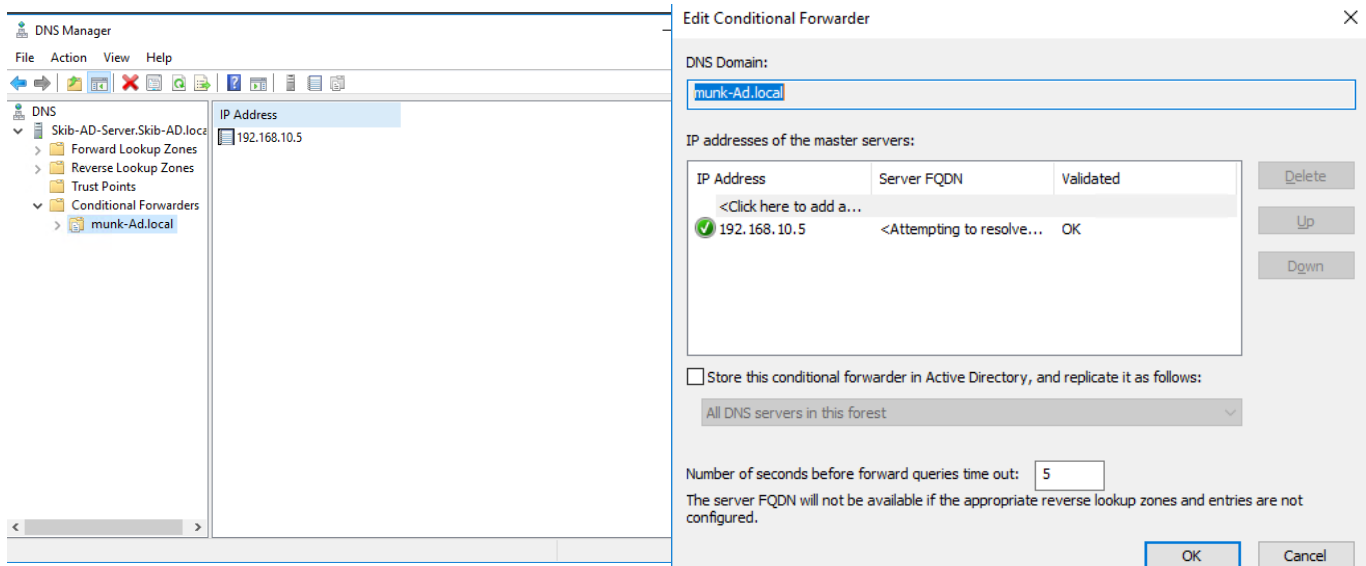


## Mapper og rettigheder

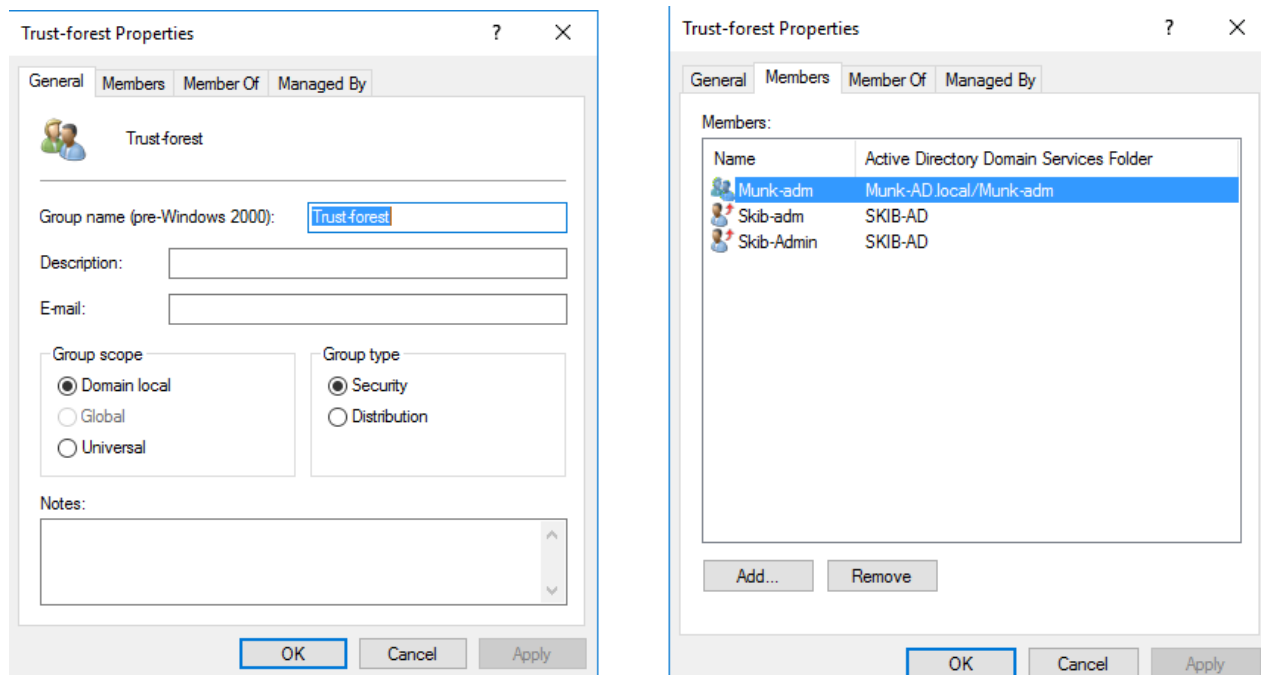


# Trust

## Conditional forwarder opsætning og indstillinger



## Trust gruppe/fobindelse

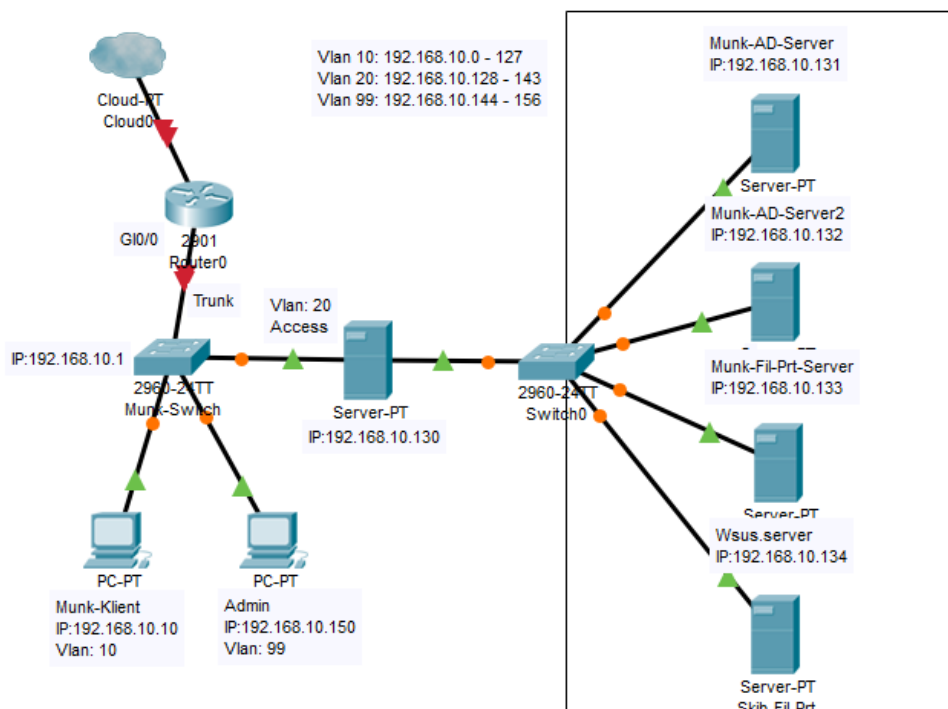


## Fase 2

Ip plan for fase 2:

Vlan:	Ip range:	Subnet:				
.10	192.168.10.0 - 127	255.255.255.128				
.20	192.168.10.128 - 143	255.255.255.240				
.99	192.168.10.144 - 159	255.255.255.240				
Navn/Subnet	Ip adresse	Vlan	Gateway	Subnetmask	Prefix	Brugbar scope
<b>Munkebjerg</b>						
(R1) - GI0/0.10 (Klient)	192.168.10.1	10		255.255.255.128	/25	
Klient PC	192.168.10.10	10	192.168.10.1	255.255.255.128	/25	192.168.10.15-30
(R1) - GI0/0.99 (Admin PC)	192.168.10.145	99		255.255.255.240	/28	
Admin PC	192.168.10.150	99	192.168.10.145	255.255.255.240	/28	
Switch SSH		99				
Router SSH	192.168.10.1					
(R1) - GI0/0.20 (Server)	192.168.10.129	20		255.255.255.240	/28	
Munk-AD-server	192.168.10.131	20	192.168.10.129	255.255.255.240	/28	
Munk-AD-server2	192.168.10.132	20	192.168.10.129	255.255.255.240	/28	
Munk-fil-print-server	192.168.10.133	20	192.168.10.129	255.255.255.240	/28	
(WSUS) Windows Server Update Services	192.168.10.134	20	192.168.10.129	255.255.255.240	/28	
ESXI	192.168.10.130	20	192.168.10.129	255.255.255.240	/28	

Netværkstopologi for fase 2:



# Router opsætning

SSH-forbindelse:

```
192.168.10.1 - PuTTY
login as: ssh
Using keyboard-interactive authentication.
Password:

rl#show running
rl#show running-config
Building configuration...
```

Password-encryption og enable secret:

```
Current configuration : 2082 bytes
!
version 15.4
service timestamps debug datetime msec
service timestamps log datetime msec
service password-encryption
no service dhcp
!
hostname rl
!
boot-start-marker
boot-end-marker
!
!
enable secret 5 $1$7hlu$m7vnLF3gqnIR5SBRRcg5R.
!
```

SSH bruger med alle rettigheder:

```
!
username ssh privilege 15 password 7 08114D5D1A0E0A05165A
!
```

Ip nat outside:

```
interface GigabitEthernet0/1
 ip address dhcp
 ip nat outside
 ip virtual-reassembly in
 duplex auto
 speed auto
```



Sub-interfaces med nat inside:

```
!
interface GigabitEthernet0/0.10
 encapsulation dot1Q 10
 ip address 192.168.10.1 255.255.255.128
 ip helper-address 192.168.10.131
 ip nat inside
 ip virtual-reassembly in
!
interface GigabitEthernet0/0.20
 encapsulation dot1Q 20
 ip address 192.168.10.129 255.255.255.240
 ip nat inside
 ip virtual-reassembly in
!
interface GigabitEthernet0/0.99
 encapsulation dot1Q 99
 ip address 192.168.10.145 255.255.255.240
 ip nat inside
 ip virtual-reassembly in
!
```

Source list/access-list:

```
ip nat inside source list 1 interface GigabitEthernet0/1 overload
ip route 0.0.0.0 0.0.0.0 GigabitEthernet0/1
ip ssh version 2
!
!
!
access-list 1 permit 192.168.10.0 0.0.0.255
!
```

# Switch opsætning

Switch enable password:

```
S1>enable
Password:
S1#show run
S1#show running-config
Building configuration...
```

Password-encryption og enable secret:

```
service password-encryption
!
hostname S1
!
boot-start-marker
boot-end-marker
!
enable secret 5 $1$Z3JK$vHbBrHrS4.CWInSdYM88N/
```

Switchport access:

```
interface FastEthernet0/1
 switchport access vlan 10
 switchport mode access
```

```
interface FastEthernet0/2
 switchport access vlan 99
 switchport mode access
 switchport port-security
 switchport port-security mac-address 3c52.8276.db78 vlan access
```

```
interface GigabitEthernet0/2
 switchport access vlan 20
 switchport mode access
```

Trunk:

```
S1#show interfaces trunk

Port      Mode           Encapsulation  Status        Native vlan
Gi0/1     on             802.1q         trunking      1

Port      Vlans allowed on trunk
Gi0/1     10,20,99

Port      Vlans allowed and active in management domain
Gi0/1     10,20,99

Port      Vlans in spanning tree forwarding state and not pruned
Gi0/1     10,20,99
```

Vlan 10, 20 og 99 / black hole (Vlan 80):

```
S1#show vlan
```

VLAN	Name	Status	Ports
1	default	active	
10	VLAN0010	active	Fa0/1
20	VLAN0020	active	Gi0/2
80	VLAN0080	active	Fa0/3, Fa0/4, Fa0/5, Fa0/6 Fa0/7, Fa0/8, Fa0/9, Fa0/10 Fa0/11, Fa0/12, Fa0/13, Fa0/14 Fa0/15, Fa0/16, Fa0/17, Fa0/18 Fa0/19, Fa0/20, Fa0/21, Fa0/22 Fa0/23, Fa0/24
99	VLAN0099	active	Fa0/2

# EXSI

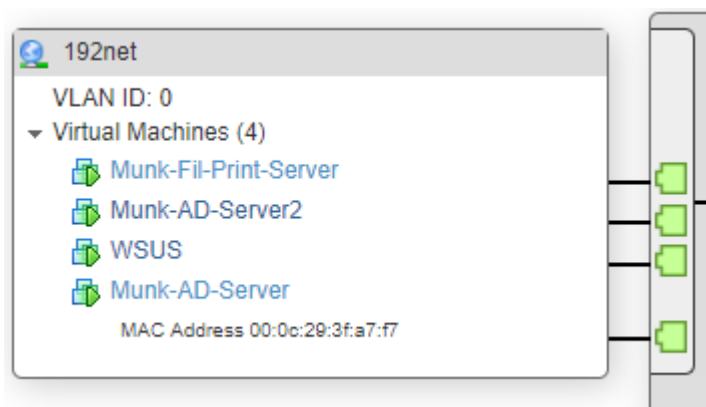
Netværks adapter for alle serverne:

▶ Network Adapter 1

192net ▼

☒ Connect

✕



Create / Register VM | Console | Power on | Power off | Suspend | Refresh | Actions

<input type="checkbox"/> Virtual machine ▲	Status ▼	Used space ▼
<input type="checkbox"/> Munk-AD-Server	✓ Normal	58.11 GB
<input type="checkbox"/> Munk-AD-Server2	✓ Normal	58.11 GB
<input type="checkbox"/> Munk-Fil-Print-Server	✓ Normal	108.11 GB
<input type="checkbox"/> WSUS	✓ Normal	108.11 GB

Quick filters... ▼

# MunkAD1

Statisk ip:

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address:

192 . 168 . 10 . 131

Subnet mask:

255 . 255 . 255 . 240

Default gateway:

192 . 168 . 10 . 129

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server:

127 . 0 . 0 . 1

Alternate DNS server:

. . . .

☐ Validate settings upon exit

Advanced...

OK

Cancel

Brugere/Grupper:

Munk-adm	
Name	Type
Daniel Witek Olsen	User
Jeppe Kjær	User
Marc Wettendorff	User
Munk-adm	Security Group...

Munk-rev	
Name	Type
Jacob Bünning	User
Mikkel Lars	User
Munk-rev	Security Group...
temp	User
Thomas Birk	User





DNS (Name servers og forwarders):

_msdcs		
_sites		
_tcp		
_udp		
DomainDnsZones		
ForestDnsZones		
(same as parent folder)	Start of Authority (SOA)	[90], munk-ad-server.mun...
(same as parent folder)	Name Server (NS)	munk-ad-server.munk-ad...
(same as parent folder)	Name Server (NS)	munk-ad-server2.munk-a...
(same as parent folder)	Host (A)	192.168.10.132
(same as parent folder)	Host (A)	192.168.10.131
Admin-PC	Host (A)	192.168.10.150
munk-ad-server	Host (A)	192.168.10.131
Munk-AD-Server2	Host (A)	192.168.10.132
Munk-PC	Host (A)	192.168.10.10
MunkFP	Host (A)	192.168.10.133

Name servers:

Server Fully Qualified Domain Name (FQDN)	IP Address	IP Address	Server FQDN
munk-ad-server.munk-ad.local.	[192.168.10.131]	8.8.8.8	google-public-dns-a.google.com
munk-ad-server2.munk-ad.local.	[192.168.10.132]		

DHCP:


Option Name	Vendor	Value
 003 Router	Standard	192.168.10.1
 006 DNS Servers	Standard	192.168.10.131
 015 DNS Domain Name	Standard	Munk-AD.local
Start IP Address	End IP Address	Description
 192.168.10.15	192.168.10.30	Address range for distribution






Group Policy:

## Default Domain Policy







### Security Filtering

The settings in this GPO can c

Name
 Authenticated Users

Default Domain Policy	
Scope	Details Settings Delegation
These groups and users have the specified permission for this GPO	
Groups and users:	
Name	Allowed Permissions
 Authenticated Users	Read (from Security Filtering)
 Domain Admins (MUNK-AD\Domain Admins)	Custom
 Enterprise Admins (MUNK-AD\Enterprise Admins)	Custom
 ENTERPRISE DOMAIN CONTROLLERS	Read
 SYSTEM	Edit settings, delete, modify security

## Munk-adm GPO

Munk-adm GPO	
Scope	Details Settings Delegation
These groups and users have the specified permission for this GPO	
Groups and users:	
Name	Allowed Permissions
 Authenticated Users	Read
 Domain Admins (MUNK-AD\Domain Admins)	Edit settings, delete, modify security
 Enterprise Admins (MUNK-AD\Enterprise Admins)	Edit settings, delete, modify security
 ENTERPRISE DOMAIN CONTROLLERS	Read
 Munk-adm (MUNK-AD\Munk-adm)	Read (from Security Filtering)
 SYSTEM	Edit settings, delete, modify security



## Munk-rev GPO

### Security Filtering

The settings in this GPO can only apply

Name

Munk-rev (MUNK-AD\Munk-rev)

**Munk-rev GPO**

Scope Details Settings Delegation

These groups and users have the specified permission for this GPO

Groups and users:

Name	Allowed Permissions
Authenticated Users	Read
Domain Admins (MUNK-AD\Domain Admins)	Edit settings, delete, modify security
Enterprise Admins (MUNK-AD\Enterprise Admins)	Edit settings, delete, modify security
ENTERPRISE DOMAIN CONTROLLERS	Read
Munk-rev (MUNK-AD\Munk-rev)	Read (from Security Filtering)
SYSTEM	Edit settings, delete, modify security

### Password Policy (Sat til Default Domain Policy):

Policy	Policy Setting
Enforce password history	24 passwords remembered
Maximum password age	25 days
Minimum password age	1 days
Minimum password length	10 characters
Password must meet complexity requirements	Enabled
Store passwords using reversible encryption	Disabled

### Drive maps:

Name	Order	Action	Path	Reconnect
M:	1	Create	\\MunkFP\Faelles Mappe	Yes

<--- Sat til Default Domain Policy

Name	Order	Action	Path	Reconnect
G:	1	Create	\\MunkFP\Munk-adm - Faelles Mappe	Yes
P:	2	Create	\\MunkFP\%username%	Yes

<--- Sat til Munk-Adm GPO

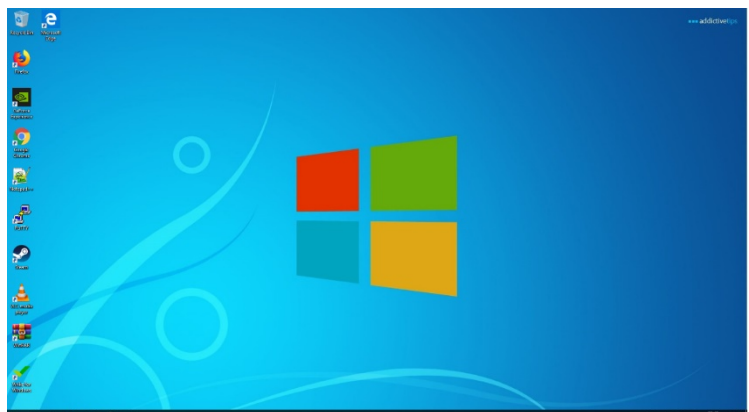
Name	Order	Action	Path	Reconnect
G:	1	Create	\\MunkFP\Munk-rev - Faelles Mappe	Yes
P:	2	Create	\\MunkFP\%username%	Yes

<--- Sat til Munk-Rev GPO

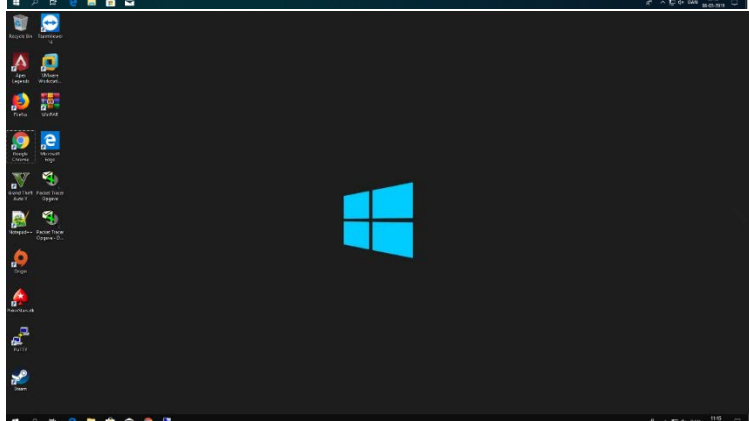
Desktop Wallpaper (Sat på Munk-Rev/Adm – med hver sin baggrund)

<--- "background-rev.jpg / background-adm.jpg"

Klient PC ---->



Admin PC ---->



Account lock:



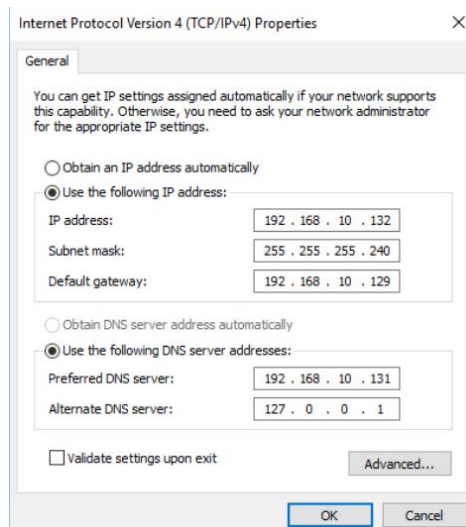
Logon audit:

AD Recycle Bin:

<--- Slettede ting kommer ind her

MunkAD2

## Statisk ip:



## Brugere fra AD1 kopier:

Munk-adm	
Name	Type
Daniel Witek...	User
Jeppe Kjær	User
Marc Wette...	User
Munk-adm	Security Group...

Munk-rev	
Name	Type
Jacob Bünni...	User
Mikkel Lars	User
Munk-rev	Security Group...
temp	User
Thomas Birk	User

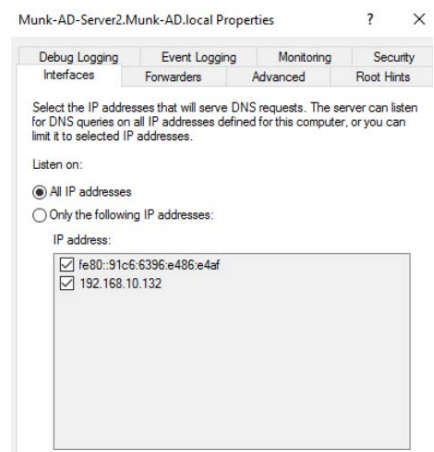
## DNS kopi fra AD1:

_msdcs		
_sites		
_tcp		
_udp		
DomainDnsZones		
ForestDnsZones		
(same as parent folder)	Start of Authority (SOA)	[90], munk-ad-server.mun...
(same as parent folder)	Name Server (NS)	munk-ad-server.munk-ad...
(same as parent folder)	Name Server (NS)	munk-ad-server2.munk-a...
(same as parent folder)	Host (A)	192.168.10.132
(same as parent folder)	Host (A)	192.168.10.131
Admin-PC	Host (A)	192.168.10.150
munk-ad-server	Host (A)	192.168.10.131
Munk-AD-Server2	Host (A)	192.168.10.132
Munk-PC	Host (A)	192.168.10.10
MunkFP	Host (A)	192.168.10.133

## Name servers:

Server Fully Qualified Domain Name (FQDN)	IP Address
munk-ad-server.munk-ad.local.	[192.168.10.131]
munk-ad-server2.munk-ad.local.	[192.168.10.132]

IP Address	Server FQDN
8.8.8.8	google-public-dns-a.google.com



## Windows Server Backup:

# MunkFP

Statisk ip:

Internet Protocol Version 4 (TCP/IPv4) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address:

192 . 168 . 10 . 133

Subnet mask:

255 . 255 . 255 . 240

Default gateway:

192 . 168 . 10 . 129

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server:

192 . 168 . 10 . 131

Alternate DNS server:

. . .

☐ Validate settings upon exit

Advanced...


OK


Cancel


Mapper:


This PC > DATA (D:) >


Name ^





 Backup





 Billeder





 Brugere




 Fælles Mappe



 Munk-adm - Fælles Mappe

 Munk-rev - Fælles Mappe

 Munk-rev - Fælles Mappe

 Munk-adm - Fælles Mappe

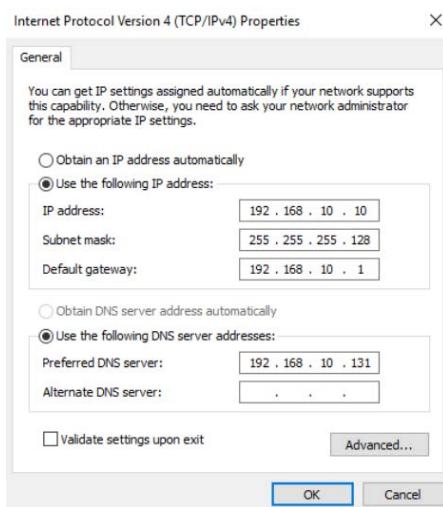


<--- Alle brugere har selv rettigheder til sin egen mappe + Administrator

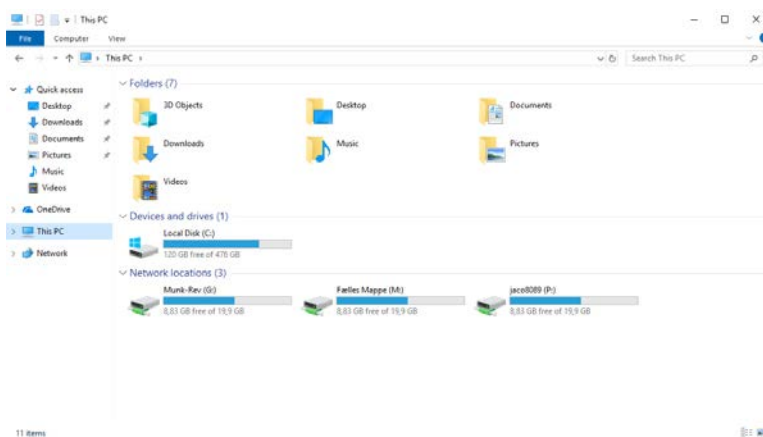


# Klient PC

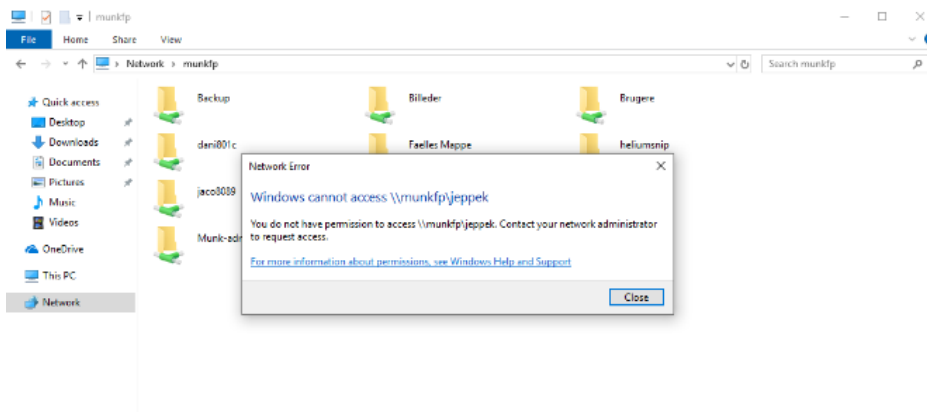
Statisk ip (Da vores DHCP havde en fejl):



Drive Maps:



Kan ikke gå på andres drev:



Statisk ip:

Drive Maps:

