



# FreeNAS™

## KONFIGURASI LAYANAN FILE SHARING DENGAN FREENAS

PRAKTIKUM CLOUD COMPUTING – PERTEMUAN KELIMA  
TIM KOOR. PRAK. CLOUD COMPUTING - JALU



# OVERVIEW MATERI KELIMA

1. Pendahuluan mengenai NAS
2. Pembuatan VM dan Instalasi FreeNAS OS
3. Konfigurasi Layanan File Sharing dengan FreeNAS OS



Bagian Pertama

# PENDAHULUAN MENGENAI NAS

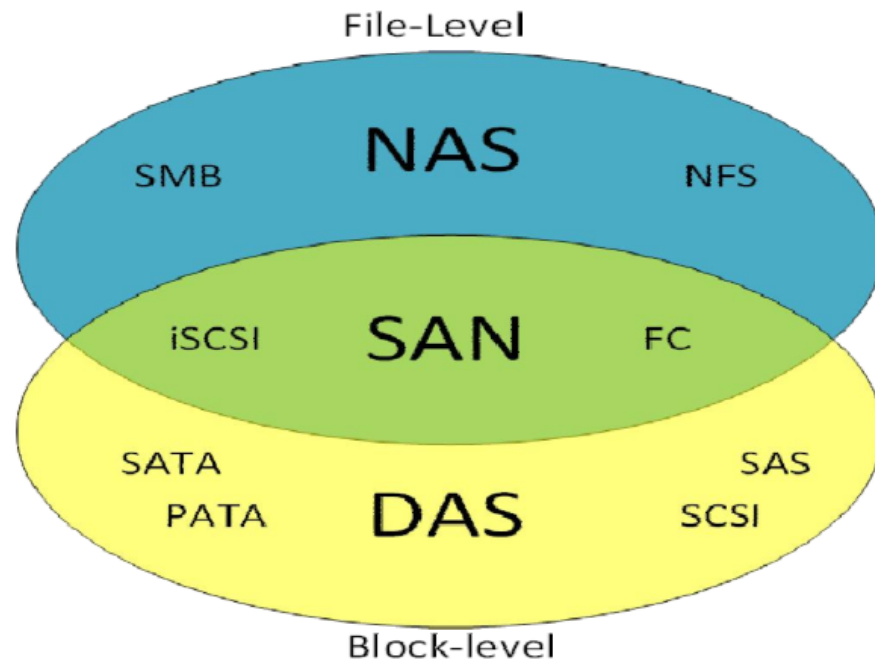
# NAS (NETWORK-ATTACHED STORAGE)

*“Adalah media penyimpanan dari segi file-level dengan konsep server (terpusat) yang terhubung ke suatu jaringan tertentu untuk diakses oleh pengguna tertentu”*

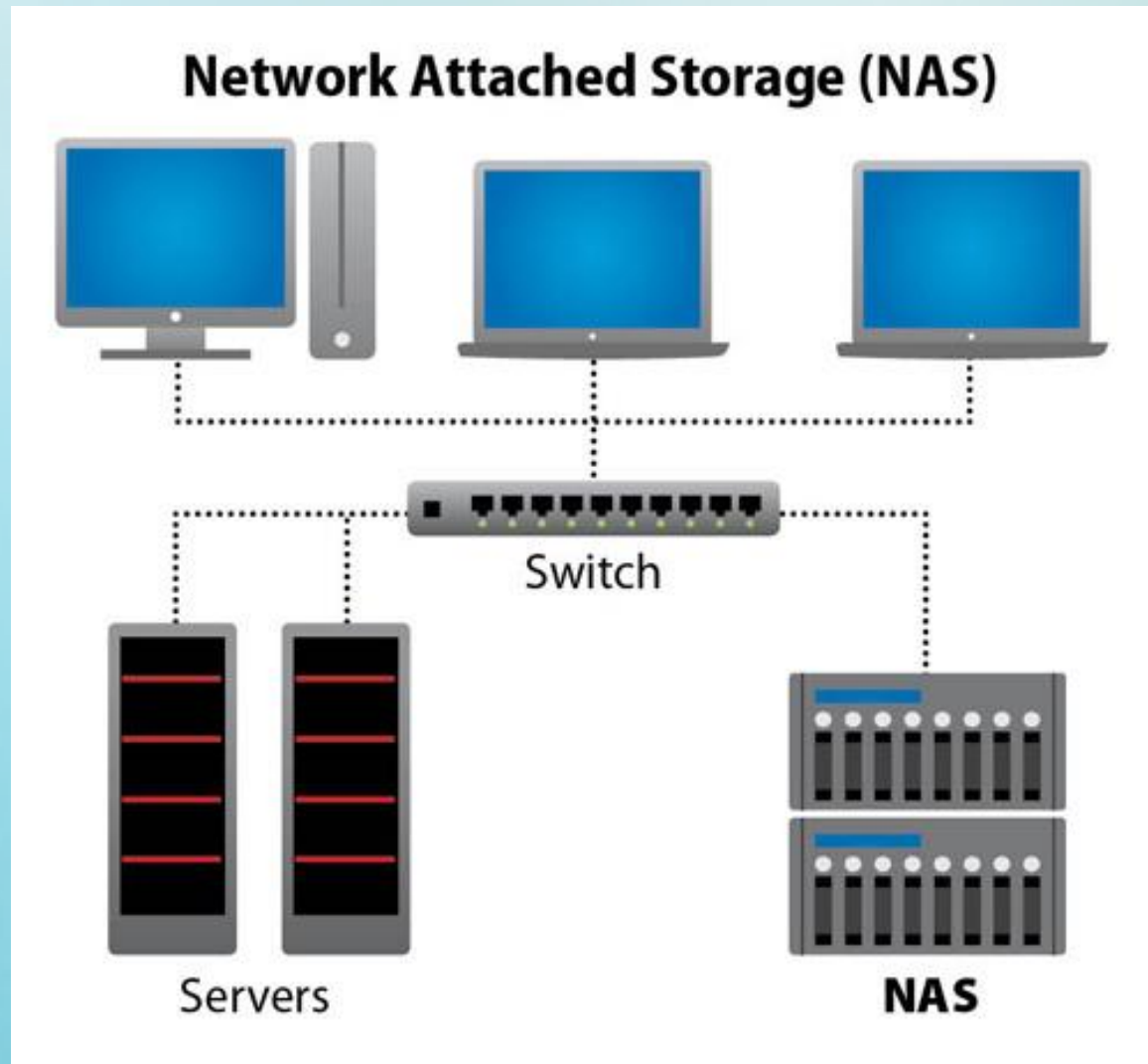


## Storage Technologies

- **Direct Attached Storage (DAS)**
- **Storage Area Network (SAN)**
- **Network Attached Storage (NAS)**



# NAS TOPOLOGY



# NAS DEVICE





Bagian Kedua

# PEMBUATAN VM DAN INSTALASI FREENAS OS

### INSTALASI DAN KONFIGURASI FREENAS

---

#### A. Tujuan Praktikum

- Memahami cara menginstall FreeNas
- Melakukan konfigurasi pada FreeNAS

#### B. Alokasi Waktu

1 x pertemuan = 120 menit

#### C. Dasar Teori

##### 1. NAS

Network Attached Storage (NAS) merupakan suatu perangkat penyimpanan (storage) yang tersambung ke jaringan sehingga memungkinkan proses pengambilan dan penyimpanan data dapat dilakukan oleh lebih dari satu klien pada suatu lokasi yang terpusat (centralized). Perangkat NAS biasanya tidak memiliki keyboard maupun tampilan/layar karena dikonfigurasi dan dikelola menggunakan alat bantu yang berbasis web.

##### 2. Keuntungan Menggunakan NAS

###### a. Faster data transfer

Salah satu keuntungan terbesar NAS adalah penggabungan tempat penyimpanan dalam suatu organisasi, sehingga memungkinkan pengguna melakukan kerjasama dan transfer data yang lebih cepat.

###### b. Reliable

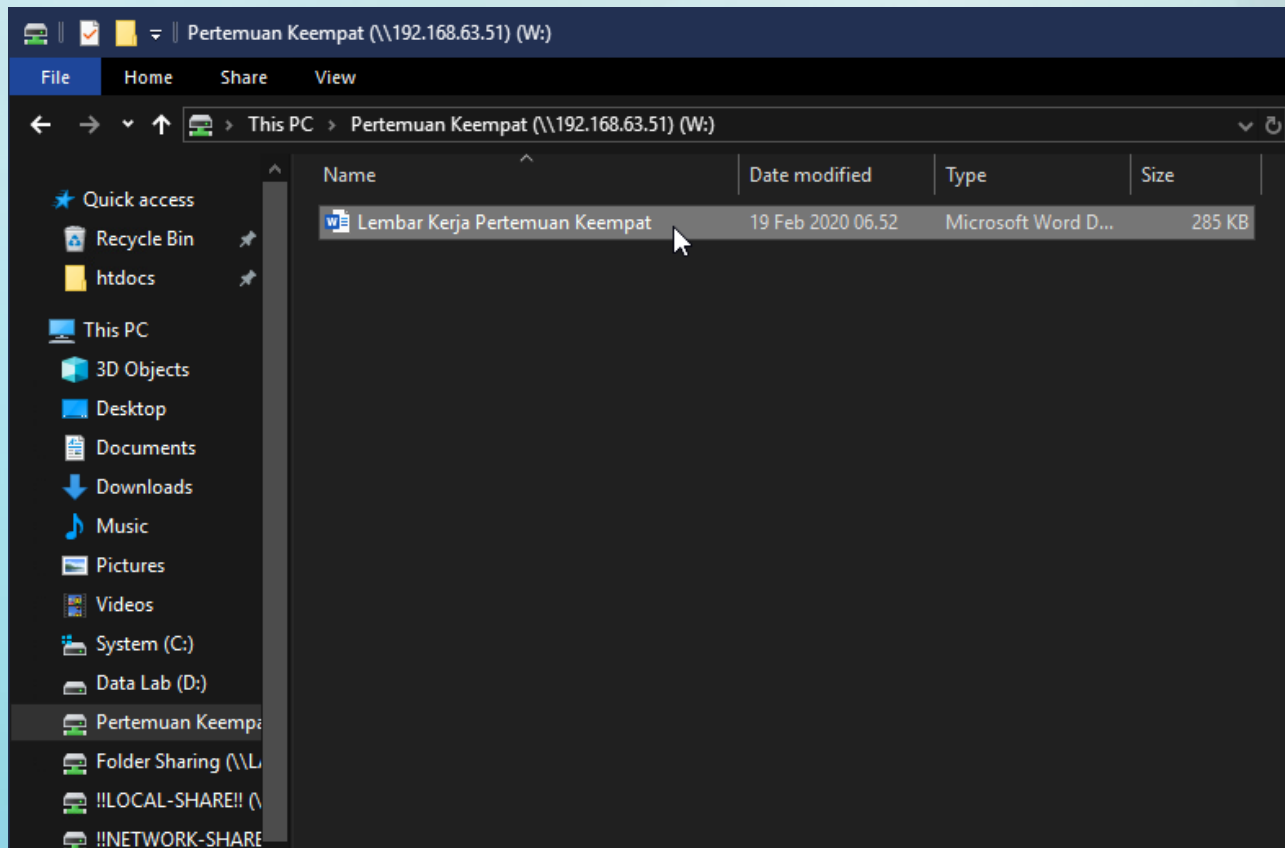
NAS memiliki daya tahan lebih baik daripada storage biasa, sehingga administrator tidak perlu khawatir soal kerusakan perangkat.

###### c. Easier to manage

NAS memiliki keberadaan yang tersentralisasi dan mudah diakses sehingga penyimpanan dan pemulihan data dapat dilakukan dengan mudah dan dari manapun.



# MENGAMBIL TEMPLATE TUGAS



Ambil template tugas pada alamat: \\192.168.63.51\Pertemuan Kelima  
Sambungkan tanpa kata sandi

# MENGERJAKAN PEMBUATAN VM BERDASARKAN PANDUAN PADA TEMPLATE

- Kerjakan Tugas Bagian Pertama terlebih dahulu!

## **TUGAS BAGIAN PERTAMA – PEMBUATAN VM:**

1. Gunakan opsi konfigurasi Custom

### New Virtual Machine Wizard

#### Ready to Create Virtual Machine

Click Finish to create the virtual machine and start installing FreeBSD version 10 and earlier 64-bit.

The virtual machine will be created with the following settings:

Name:	FreeNAS 123150131
Location:	D:\VM-123150131\FreeNAS
Version:	Workstation 15.x
Operating System:	FreeBSD version 10 and earlier 64-bit
Hard Disk:	10 GB, Split
Memory:	2048 MB
Network Adapter:	NAT
Other Devices:	4 CPU cores, CD/DVD, USB Controller, Sound Card

Customize Hardware...

☒ Power on this virtual machine after creation

< Back

Finish

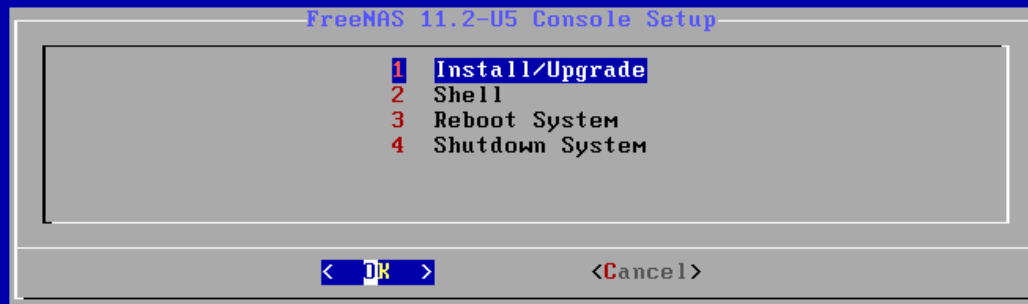
Cancel

# MENGERJAKAN INSTALASI FREENAS OS BERDASARKAN PANDUAN PADA TEMPLATE

- Lanjutkan dengan pengerjaan pada Tugas Bagian Kedua

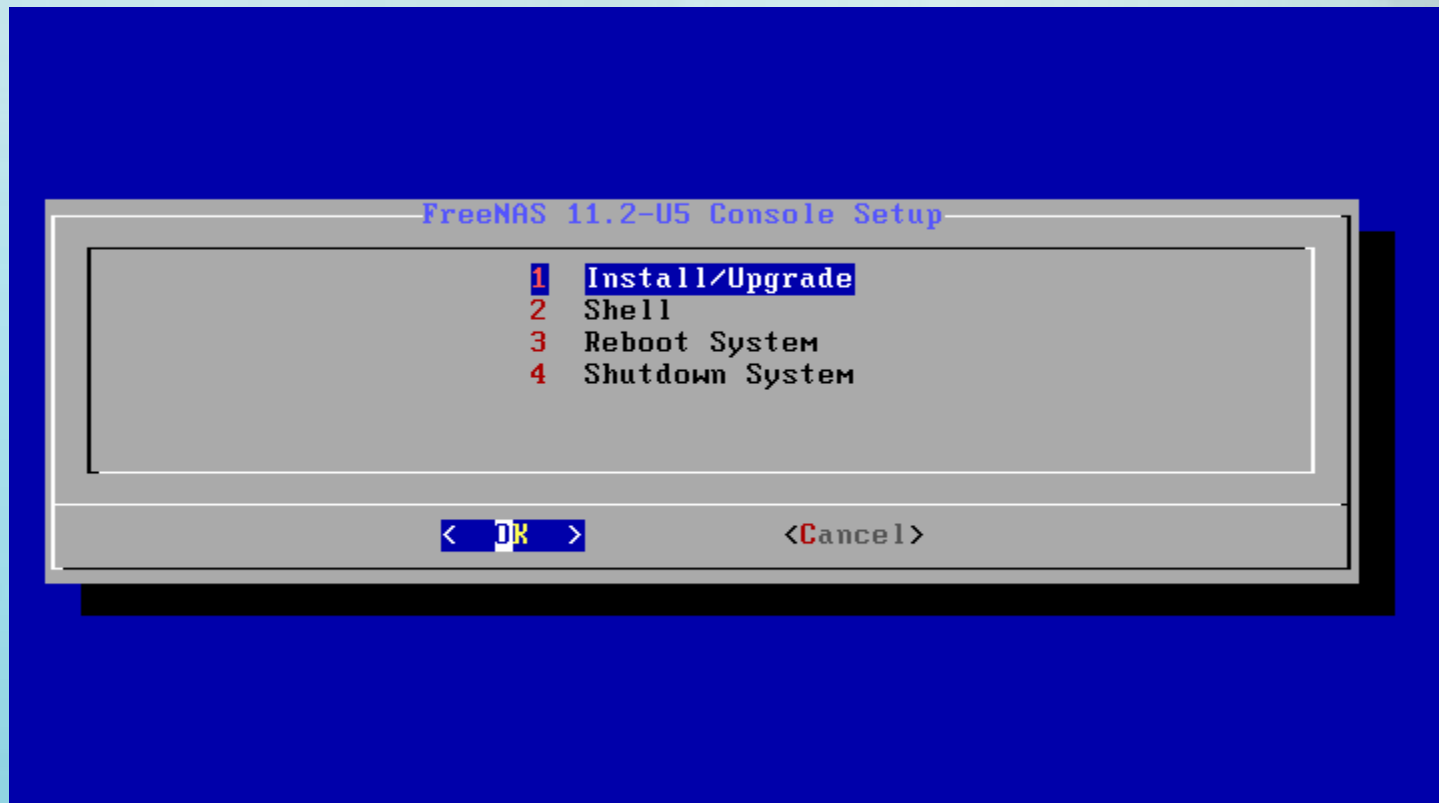
## **TUGAS BAGIAN KEDUA – INSTALASI FREENAS:**

1. Tampilan awal tahap instalasi FreeNAS, pilih Install/Upgrade



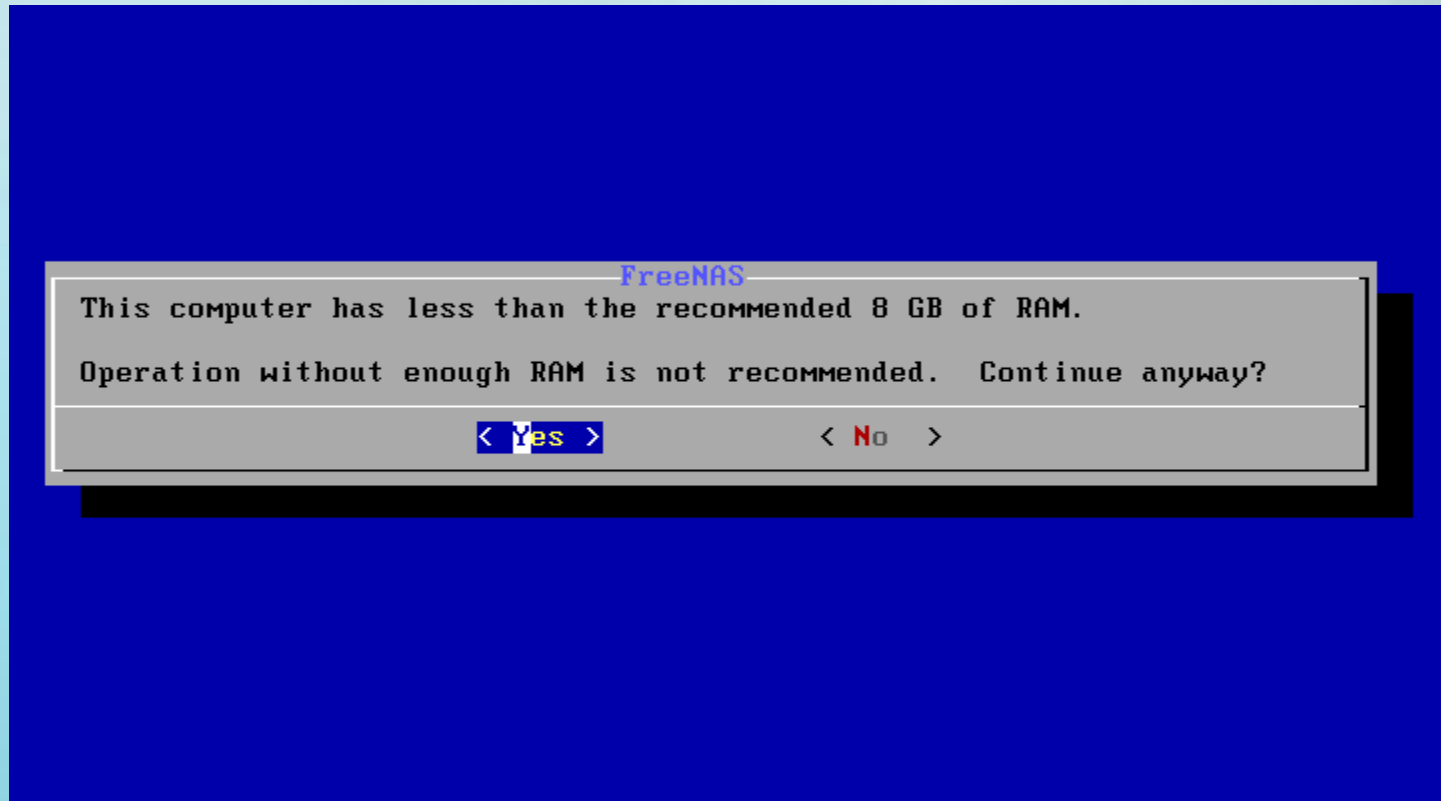


# INSTALASI FREENAS



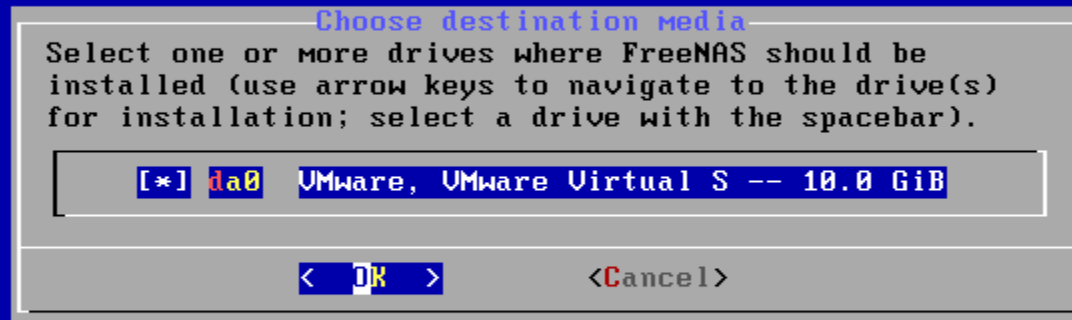
Pilih menu pertama dengan menekan Enter

# INSTALASI FREENAS



Konfirmasi peringatan jumlah RAM yang kurang, tekan Enter pada Yes

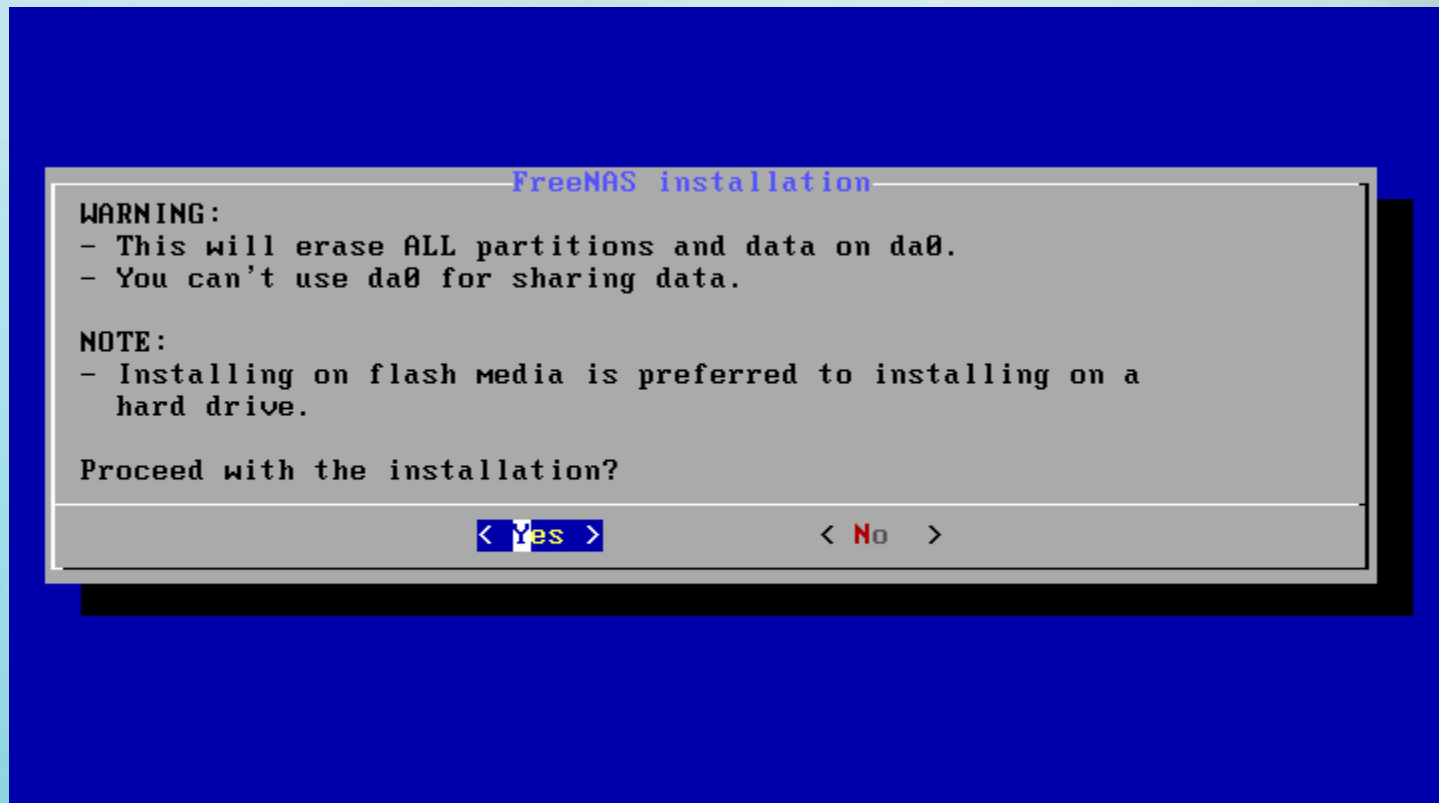
# INSTALASI FREENAS



Tekan spasi pada disk da0 hingga muncul asterik kemudian tekan Enter

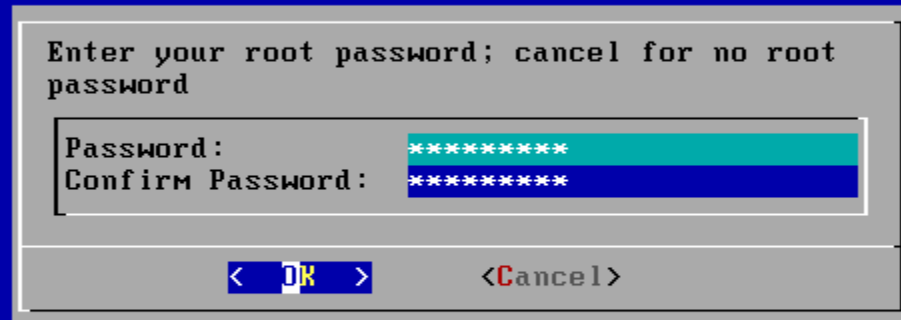


# INSTALASI FREENAS



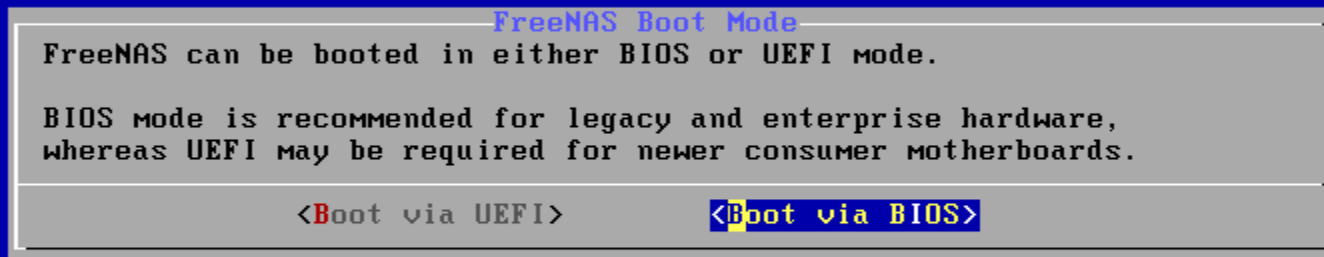
Konfirmasi akhir sebelum melakukan format. Tekan Enter pada Yes

# INSTALASI FREENAS



Buat kata sandi untuk root user. Catat kata sandi pada modul!

# INSTALASI FREENAS



Gunakan opsi Boot via BIOS



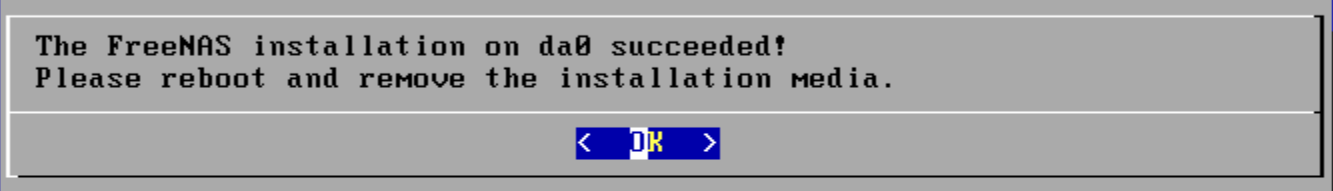
# INSTALASI FREENAS

```
2+0 records in
2+0 records out
2097152 bytes transferred in 0.038245 secs (54834151 bytes/sec)
dd: /dev/da0: end of device
3+0 records in
2+0 records out
2097152 bytes transferred in 0.008506 secs (246546570 bytes/sec)
da0 created
da0p1 added
da0p2 added
gmirror: Invalid class name.
da0 destroyed
da0 created
da0p1 added
da0p2 added
active set on da0
random: unblocking device.

Installing base-os (1 of 4)
...
```

Tunggu proses instalasi hingga selesai (sekitar 5 menit)

# INSTALASI FREENAS

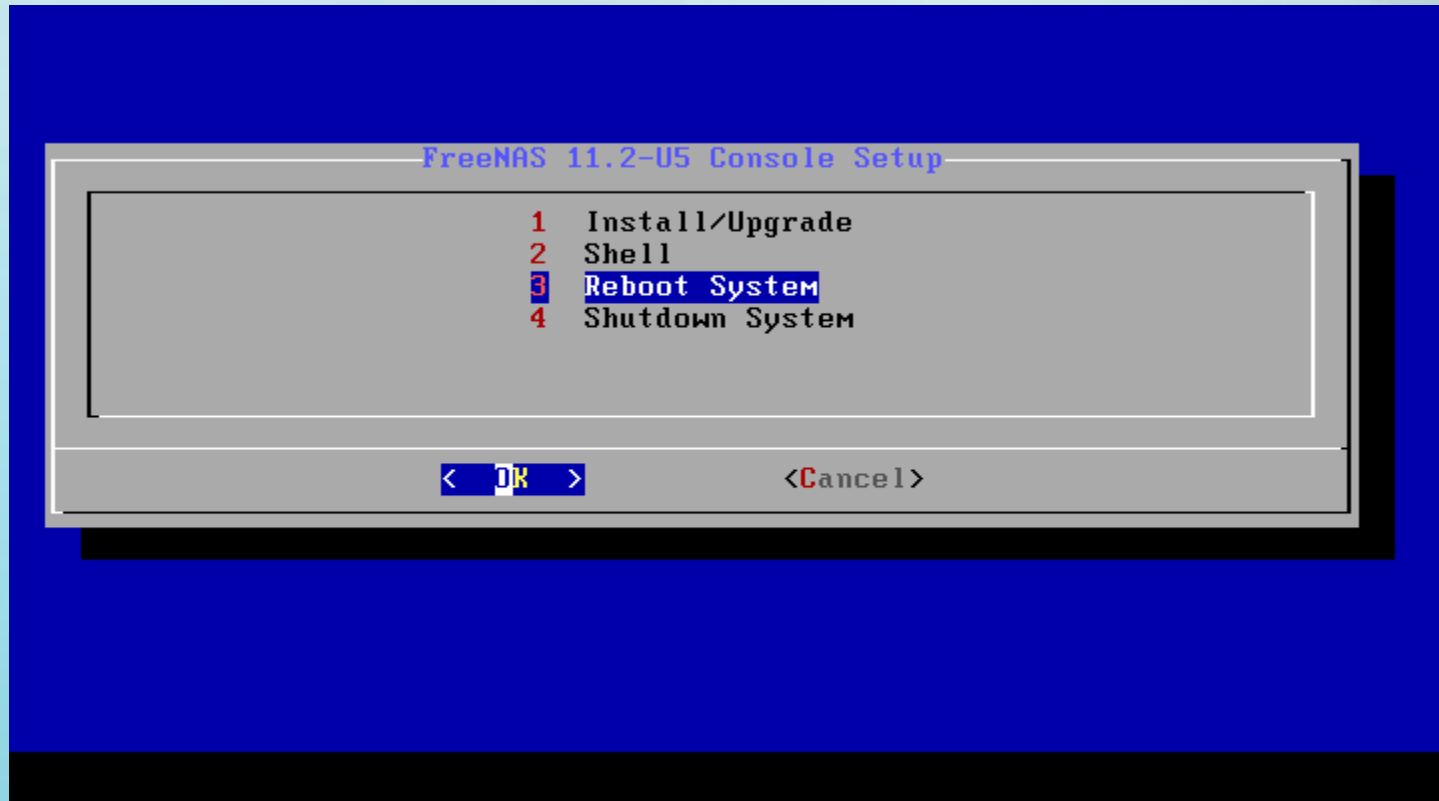
A screenshot of a FreeNAS installation completion dialog box. The dialog box has a light gray background and a thin black border. It contains two lines of text in a monospaced font. The first line reads "The FreeNAS installation on da0 succeeded!" and the second line reads "Please reboot and remove the installation media." Below the text is a horizontal bar with a blue background and white text that says "< OK >". The dialog box is centered on a solid blue background.

The FreeNAS installation on da0 succeeded!  
Please reboot and remove the installation media.

< OK >

Konfirmasi selesai instalasi untuk reboot sistem

# INSTALASI FREENAS



Pilih opsi Reboot System



# BOOTING FREENAS

```

  _____
 /         \
|   _   _   |
|  (   )   |
|   _   _   |
|  (   )   |
|   _   _   |
 \         /
  _____

Welcome to FreeNAS

1. Boot FreeNAS [Enter]
2. Boot FreeNAS (Serial Console)

Options:
3. Configure Boot Options...
4. Select Boot Environment...

+mmdhs/. ,.:+sydmNMM
hMMMMMMdydNMMMMMMMMM:
yMMMMMMMMMMMMMMMMNNNo
/MMMMMMMMMMMMMMMMMho.
NMMMMMMMMMMMMMMMMM:'. .:yN
MMMMMMMMMMMMMMMMMMmNmdmymNMMo
MMMMMMMMMMMMMMMMMs./yMMMMMMmy-
:NMMMMMMMMMMMMM. '.oMMM-'
-mMMMMMMMMMMMMMo/:/yNMh.
.mhdMMMMMMMMMMMMMh/
+' '+yMMMMMMMMNmy+'

Autoboot in 1 seconds. [Space] to pause
:
```

Biarkan dan jangan dipilih apapun

# BOOTING FREENAS



Tunggu hingga pembuatan secure keys selesai

# BOOTING FREENAS

```
Tue Feb 25 01:31:09 PST 2020

FreeBSD/amd64 (freenas.local) (ttyv0)

Console setup
-----

1) Configure Network Interfaces
2) Configure Link Aggregation
3) Configure VLAN Interface
4) Configure Default Route
5) Configure Static Routes
6) Configure DNS
7) Reset Root Password
8) Reset Configuration to Defaults
9) Shell
10) Reboot
11) Shut Down

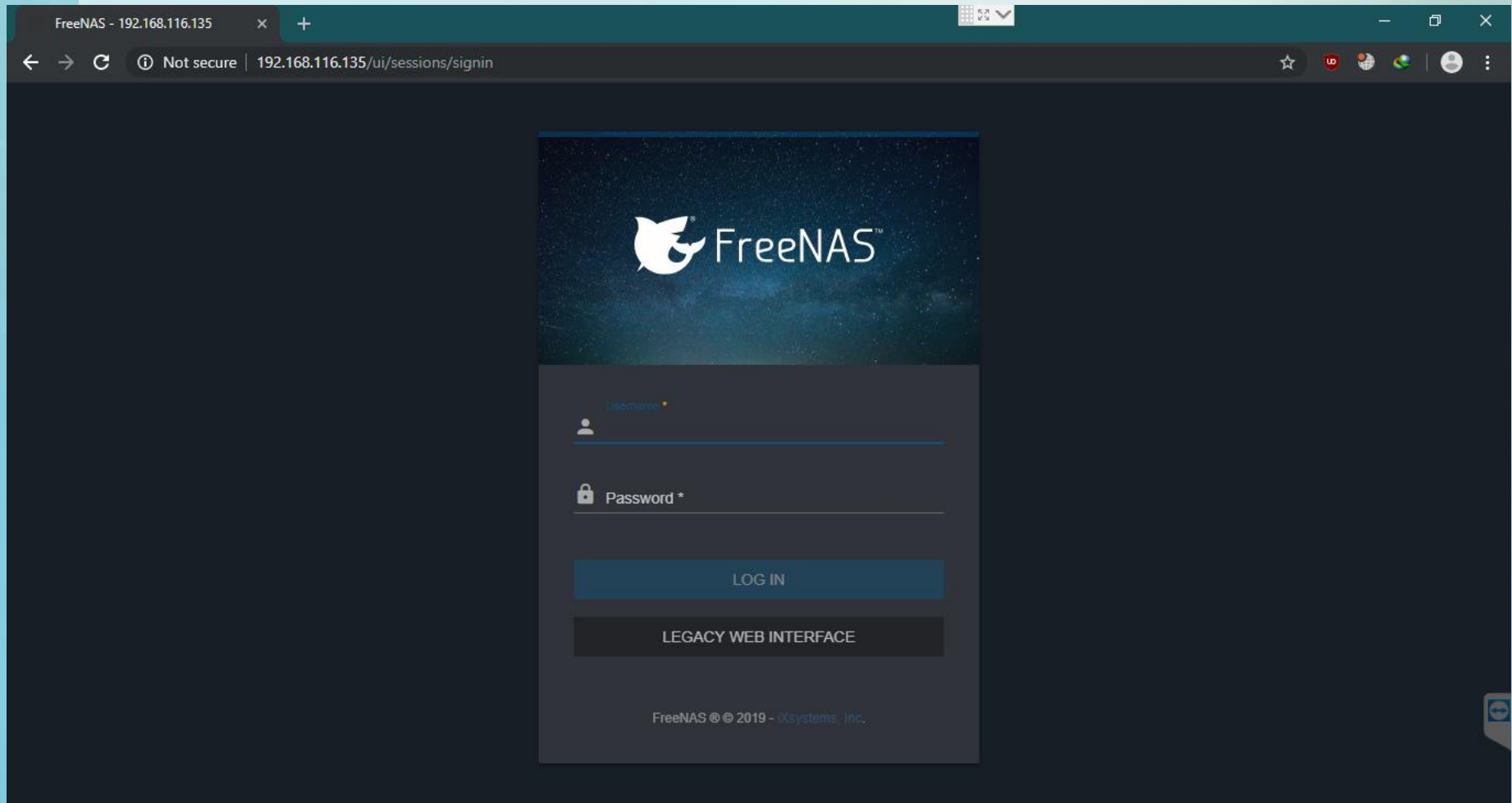
The web user interface is at:

http://192.168.116.135

Enter an option from 1-11: █
```

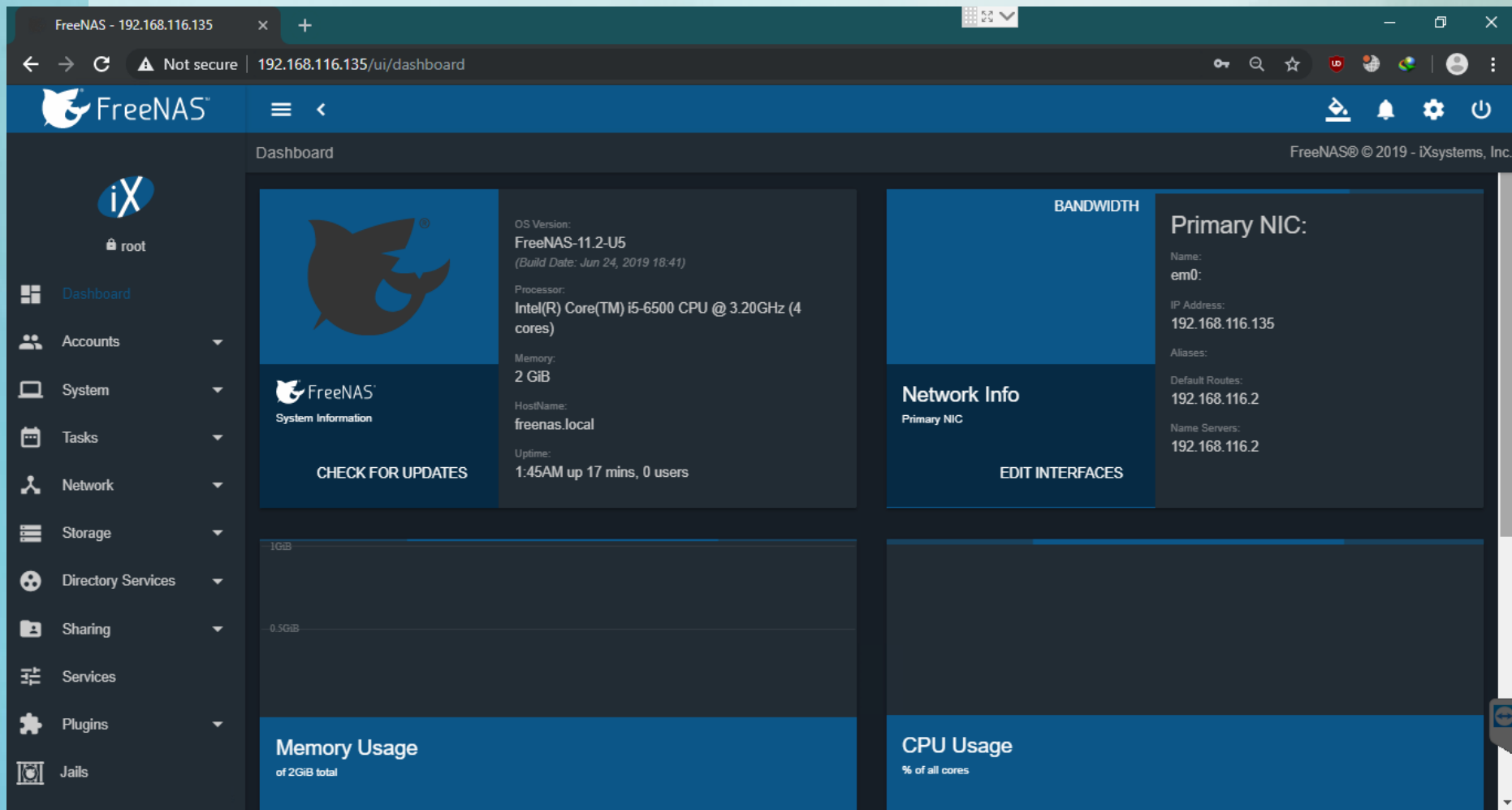
Catat IP yang didapatkan dan lanjutkan dengan proses Login pada Web Browser

# LOGIN DASHBOARD FREENAS



Tampilan login dari FreeNAS, lanjutkan dengan login berdasarkan password yang telah dibuat sebelumnya

# DASHBOARD FREENAS



Tampilan dashboard dari FreeNAS





Bagian Ketiga

# KONFIGURASI LAYANAN FILE SHARING DENGAN FREENAS OS

# EKSPERIMEN #1: MENAMBAHKAN SATU HDD BARU

```
FreeBSD/amd64 (freenas.local) (ttyv0)
```

```
Console setup
```

```
-----
```

- 1) Configure Network Interfaces
- 2) Configure Link Aggregation
- 3) Configure VLAN Interface
- 4) Configure Default Route
- 5) Configure Static Routes
- 6) Configure DNS
- 7) Reset Root Password
- 8) Reset Configuration to Defaults
- 9) Shell
- 10) Reboot
- 11) Shut Down

```
The web user interface is at:
```

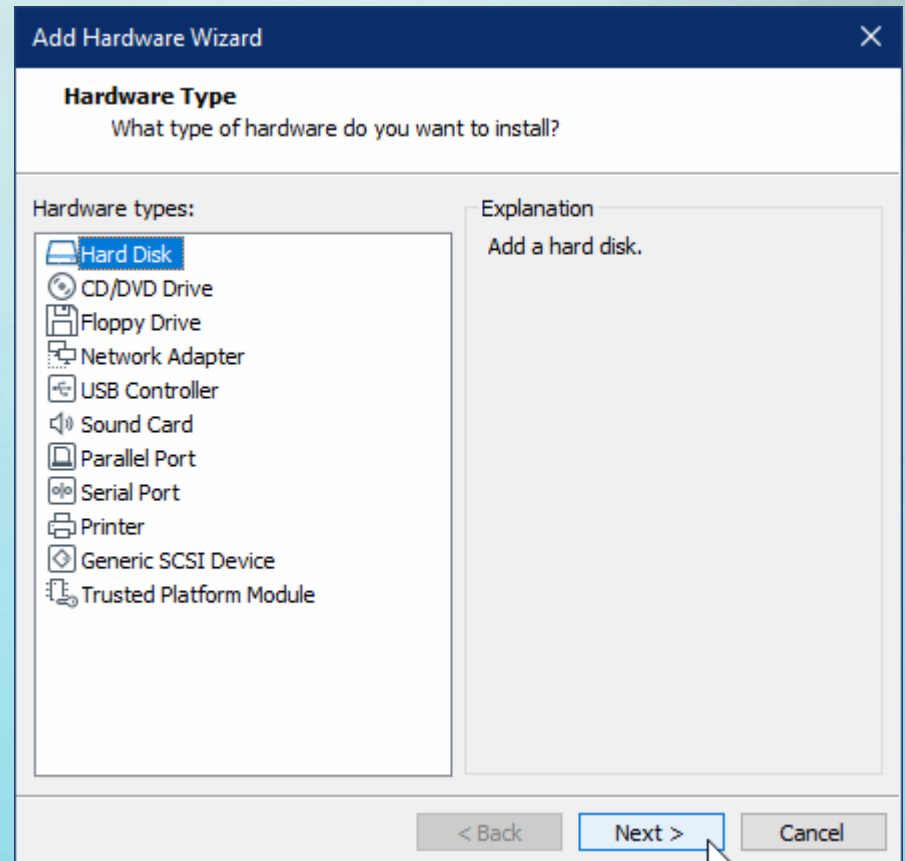
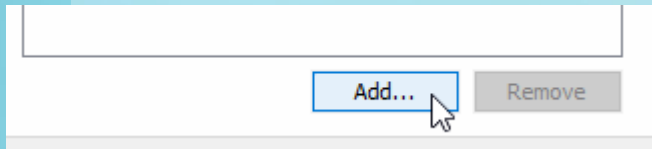
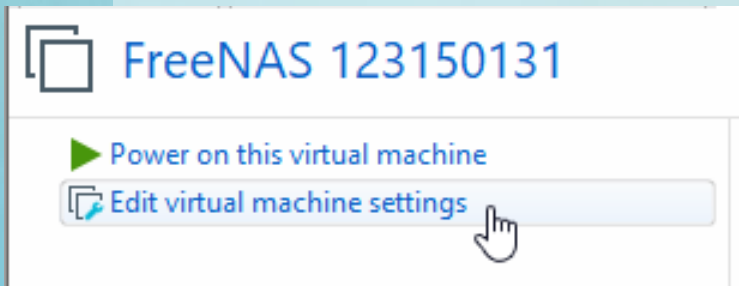
```
http://192.168.116.135
```

```
Enter an option from 1-11: 11
```

```
Confirm Shutdown (y/n): y
```

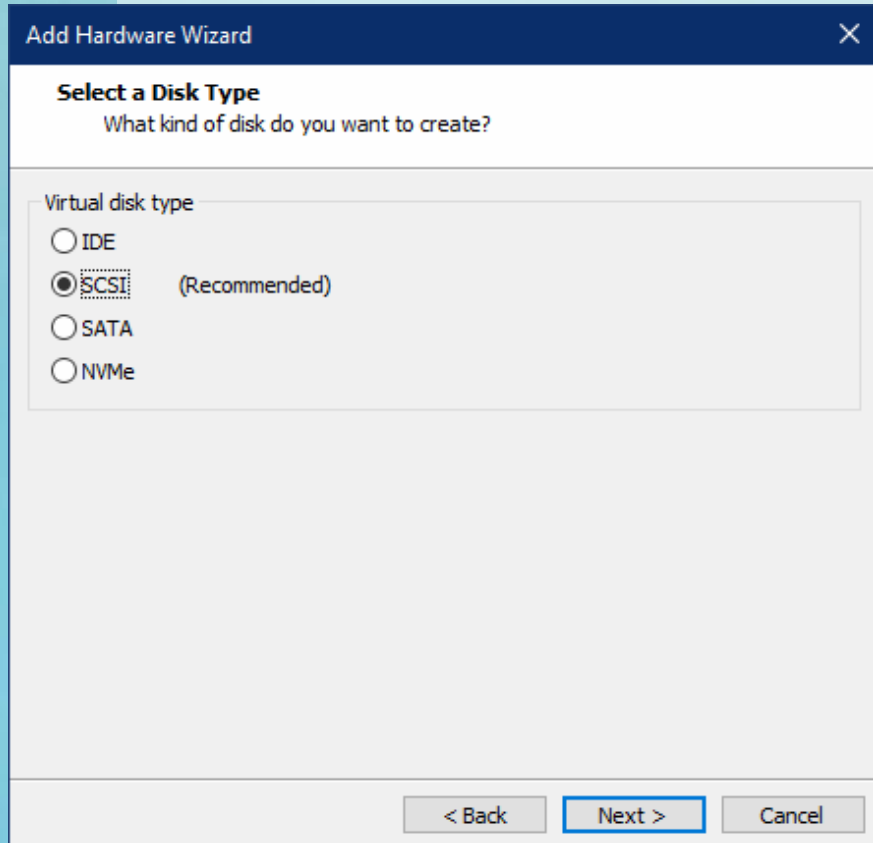
Matikan VM FreeNAS terlebih dahulu dengan cara memilih opsi 11 lalu konfirmasi dengan mengetikan “y”

# EKSPERIMEN #1: MENAMBAHKAN HDD BARU



Pilih menu “Edit virtual machine settings” kemudian klik Add...  
Lanjutkan dengan memilih Hard Disk kemudian klik Next

# EKSPERIMEN #1: MENAMBAHKAN HDD BARU



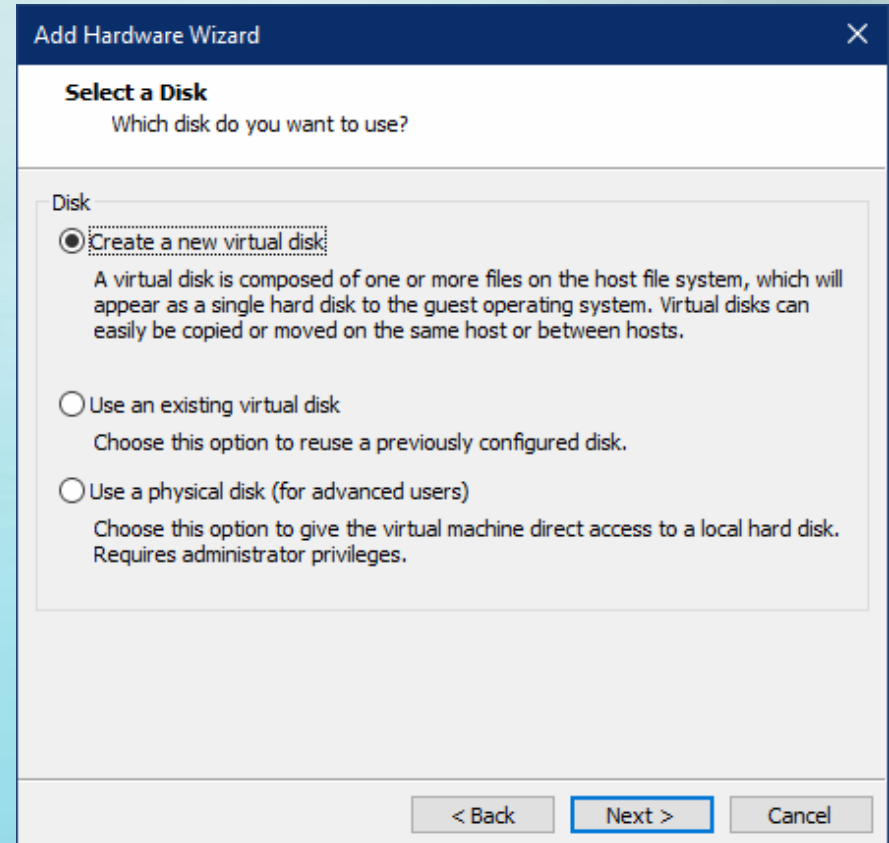
**Add Hardware Wizard** [X]

**Select a Disk Type**  
What kind of disk do you want to create?

Virtual disk type

- ☐ IDE
- ☒ **SCSI** (Recommended)
- ☐ SATA
- ☐ NVMe

< Back   **Next >**   Cancel



**Add Hardware Wizard** [X]

**Select a Disk**  
Which disk do you want to use?


Disk


- ☒ **Create a new virtual disk**  
A virtual disk is composed of one or more files on the host file system, which will appear as a single hard disk to the guest operating system. Virtual disks can easily be copied or moved on the same host or between hosts.
- ☐ Use an existing virtual disk  
Choose this option to reuse a previously configured disk.
- ☐ Use a physical disk (for advanced users)  
Choose this option to give the virtual machine direct access to a local hard disk. Requires administrator privileges.


< Back   **Next >**   Cancel

Gunakan mode Virtual Disk type default SCSI, lanjutkan dengan memilih Create a new virtual disk













# EKSPERIMEN #1: MENAMBAHKAN HDD BARU

 FreeNAS 123150131

 Power on this virtual machine

 Edit virtual machine settings

▼ Devices

 Memory	4 GB
 Processors	4
 Hard Disk (SCSI)	10 GB
 Hard Disk 3 (SCSI)	8 GB
 Hard Disk 4 (SCSI)	15 GB
 Hard Disk 5 (SCSI)	3 GB
 Hard Disk 2 (SCSI)	5 GB
 CD/DVD (IDE)	Using file C:\ISO ...
 Network Adapter	Bridged (Autom...
 USB Controller	Present
 Sound Card	Auto detect
 Display	Auto detect

▼ Description

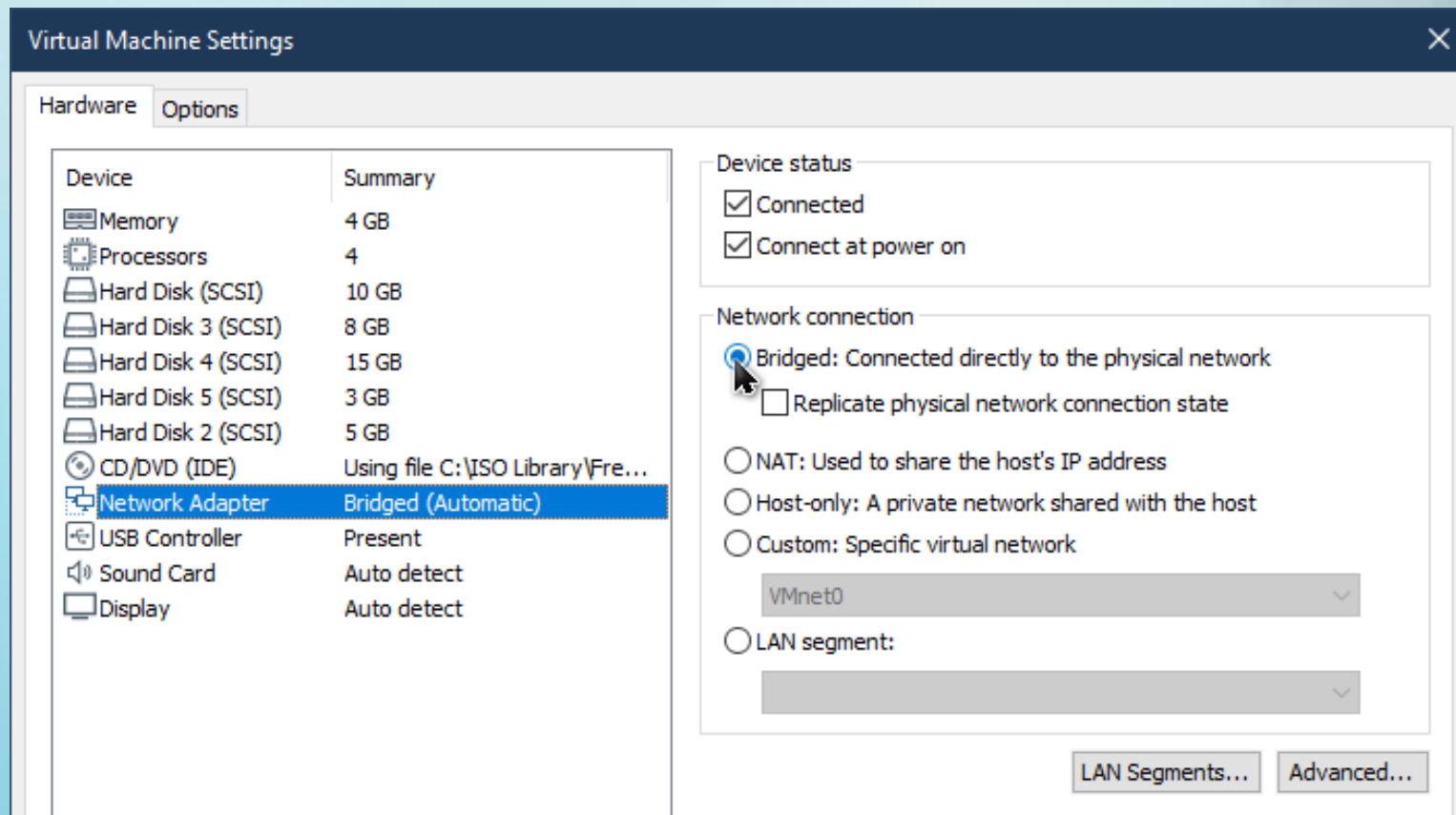
VM materi FreeNAS

Buat kembali sebanyak 4 kali sehingga akan terdapat total 5 virtual Disk Baru:

- HDD 10GB -> OS FreeNAS
- HDD 8GB -> Data Lab. Cloud
- HDD 15GB -> Data Lab. Jaringan
- HDD 3GB -> Data Lab. Komputasi
- HDD 5GB -> Data Lab. Sisdig



# EKSPERIMEN #2: MENCOBA MODE JARINGAN BRIDGE



Pada mode Network Adapter, ubah menjadi mode Bridged kemudian klik OK untuk menyimpan

# EKSPERIMEN #2: MENCOBA MODE JARINGAN BRIDGE

```
Tue Feb 25 02:00:40 PST 2020
FreeBSD/amd64 (freenas.local) (ttyv0)

Console setup
-----

1) Configure Network Interfaces
2) Configure Link Aggregation
3) Configure VLAN Interface
4) Configure Default Route
5) Configure Static Routes
6) Configure DNS
7) Reset Root Password
8) Reset Configuration to Defaults
9) Shell
10) Reboot
11) Shut Down

The web user interface is at:
http://192.168.63.53

Enter an option from 1-11: █
```

Lakukan boot VM kembali dan amati IP dari dashboard FreeNAS, bandingkan dengan IP mode NAT yang didapat sebelumnya

# KONFIGURASI LAYANAN FILE SHARING

The screenshot displays the FreeNAS web interface. The top navigation bar includes the FreeNAS logo, a hamburger menu, and a 'Toggle Hide/Open' button. On the right, there are icons for user, notifications, settings, and power. The main content area is titled 'Dashboard' and features a sidebar on the left with navigation links: Dashboard, Accounts, System, Tasks, Network, Storage, Directory Services, Sharing, Services, Plugins, Jails, and Reporting. The dashboard itself is divided into several sections: a top-left section with the FreeNAS logo and 'System Information' (including 'UPDATES AVAILABLE'), a top-right section for 'BANDWIDTH' and 'Primary NIC' details, a middle-left section for 'Memory Usage' (showing 4 GiB total), and a middle-right section for 'CPU Usage' (showing % of all cores). The bottom of the dashboard has two 'REPORTS' links.

FreeNAS™

Toggle Hide/Open

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ix

root

Dashboard

Accounts

System

Tasks

Network

Storage

Directory Services

Sharing

Services

Plugins

Jails

Reporting

Dashboard

System Information

UPDATES AVAILABLE

OS Version:  
FreeNAS-11.2-U5  
(Build Date: Jun 24, 2019 16:41)

Processor:  
Intel(R) Core(TM) i7-3630QM CPU @ 2.40GHz (4 cores)

Memory:  
4 GiB

HostName:  
freenas.local

Uptime:  
8:02PM up 2 mins, 0 users

BANDWIDTH

Primary NIC:

Name:  
em0

IP Address:  
10.72.100.19

Aliases:

Default Routes:  
10.72.100.1

Name Servers:  
10.72.100.1

Network Info  
Primary NIC

EDIT INTERFACES

Memory Usage  
of 4GiB total

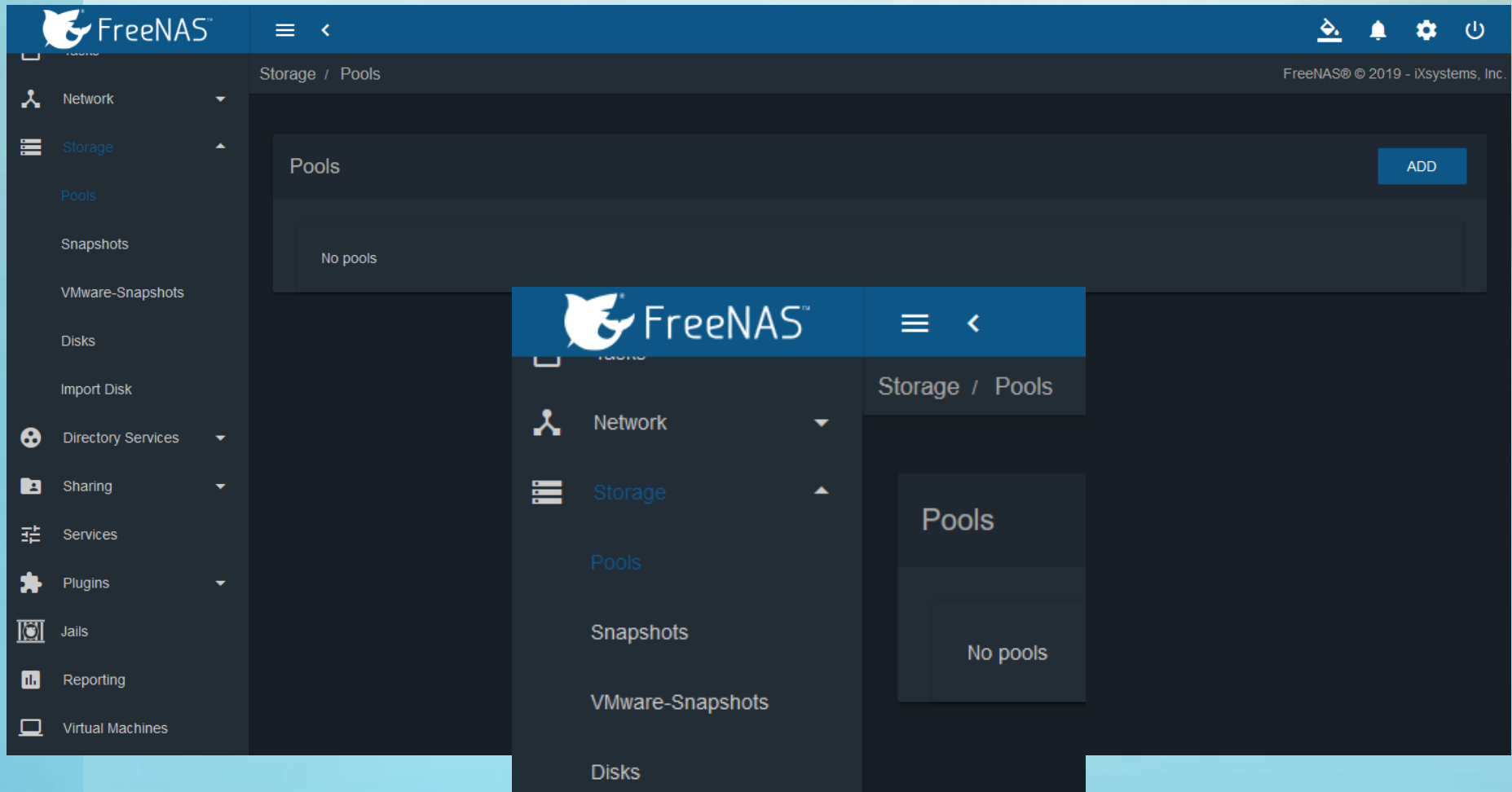
CPU Usage  
% of all cores

REPORTS

REPORTS

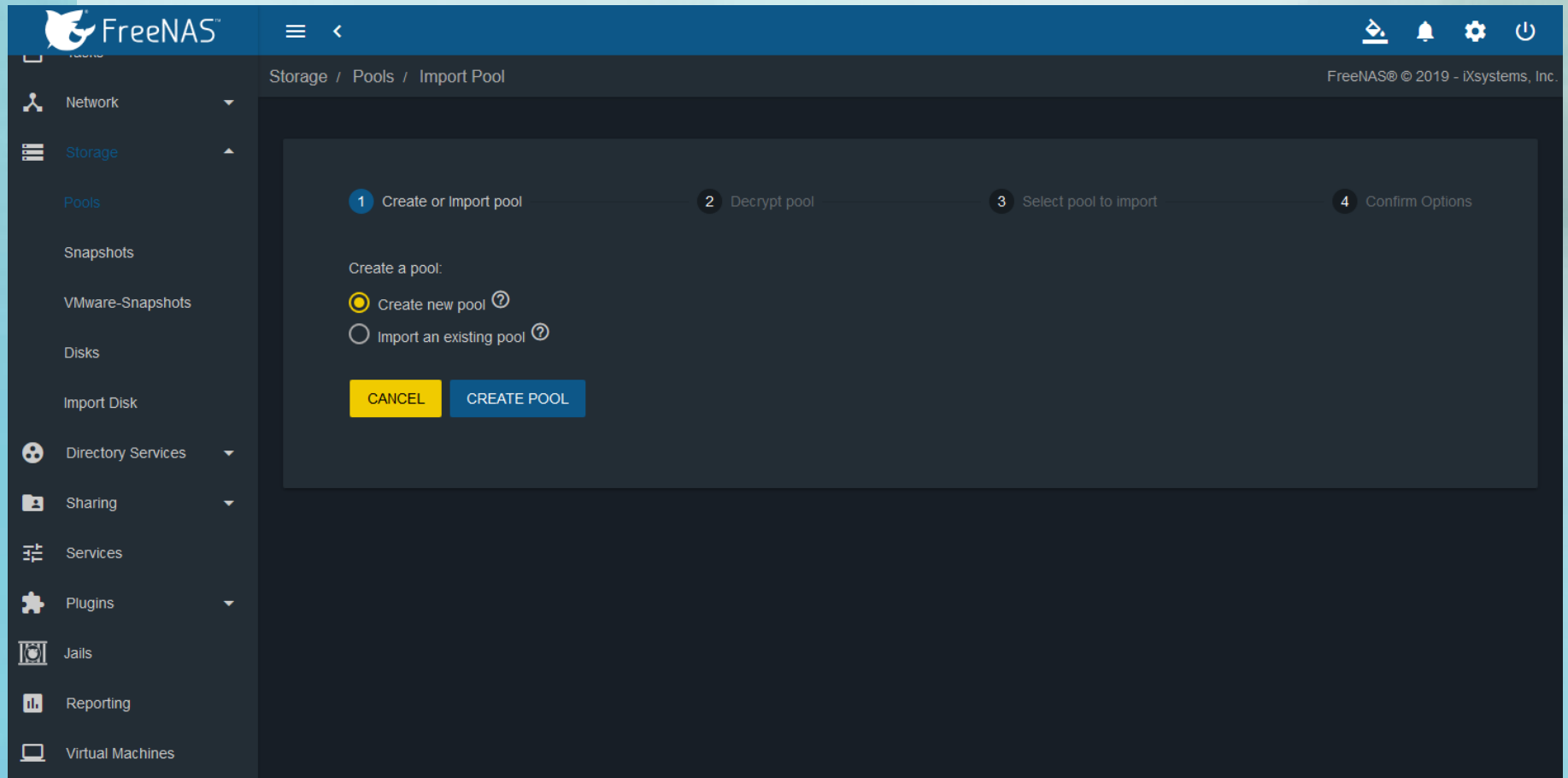
Login ke Dashboard FreeNAS terlebih dahulu

# MEMBUAT POOLS STORAGE



Masuk ke submenu Storage -> Pools lalu klik Add untuk menambahkan Pools baru

# MEMBUAT POOLS STORAGE



Pilih opsi “Create new pool” lalu klik “Create Pool”

# MEMBUAT POOLS STORAGE

Storage / Pools / Create Pool

## Pool Manager

Name \*  
data-cloud ? ☐ Encryption ?

[RESET LAYOUT](#) [SUGGEST LAYOUT](#) ?

Available Disks

<input type="checkbox"/>	Disk	Capacity
<input checked="" type="checkbox"/>	da1	5 GiB
<input type="checkbox"/>	da2	8 GiB
<input type="checkbox"/>	da3	15 GiB
<input type="checkbox"/>	da4	2 GiB

1 selected / 4 total

Reporting  
Virtual Machines

Estimated total raw data capacity: 3 GiB

[CREATE](#) [CANCEL](#) [ADD DATA](#) [ADD CACHE](#) [ADD LOG](#) [ADD SPARE](#)

Data VDevs

<input type="checkbox"/>	Disk	Capacity
<input type="checkbox"/>	da1	5 GiB

0 selected / 1 total

Stripe  
Estimated raw capacity: 3 GiB ?

### Warning

The contents of all added disks will be erased.

☒ Confirm [CANCEL](#) [CREATE POOL](#)

Buat Pool dengan nama "data-cloud" untuk drive da1 (beri checklist) kemudian klik panah untuk menambahkan pada Pool tersebut. Setelah itu klik "Create" lalu setuju konfirmasi Format.



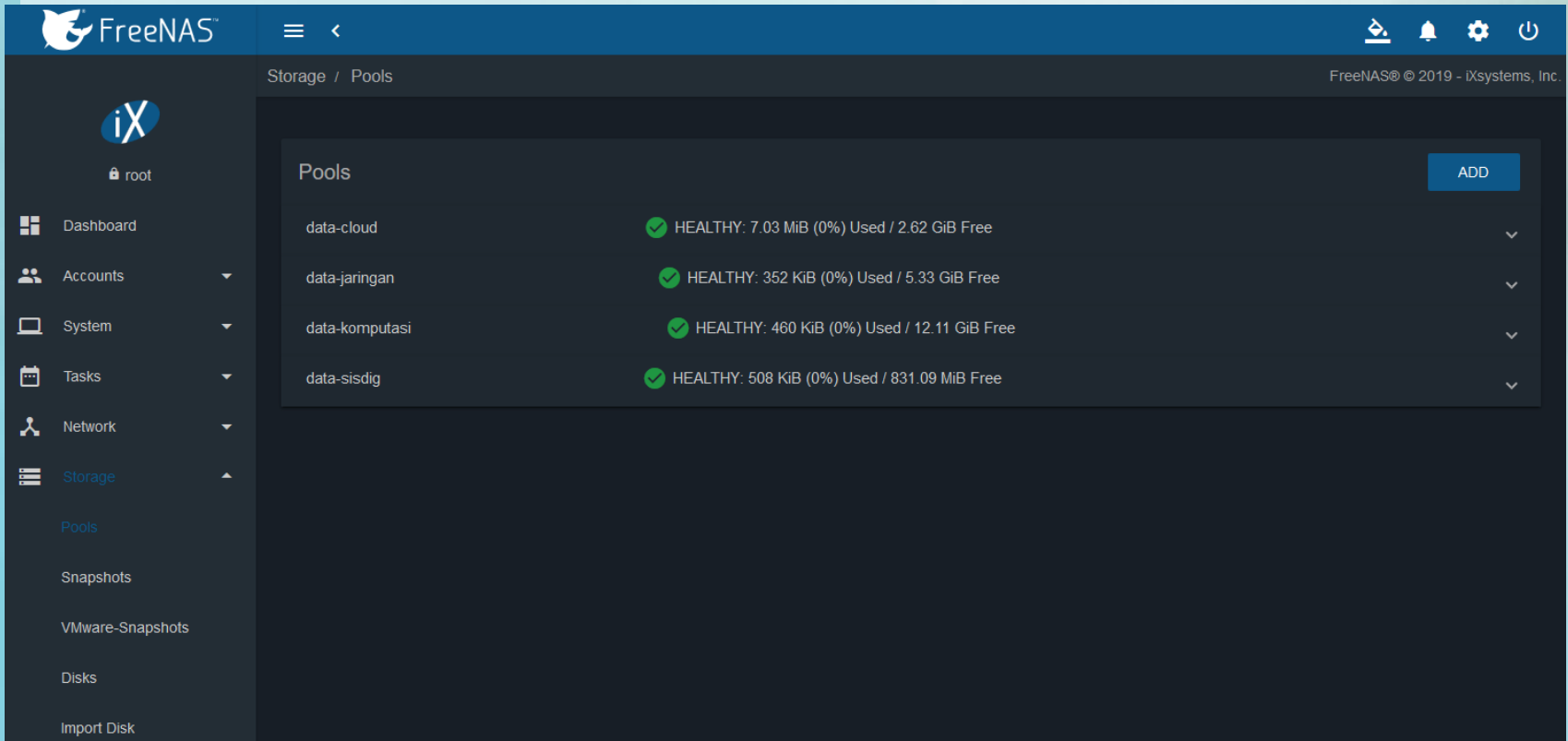
# MEMBUAT POOLS STORAGE

The screenshot displays the FreeNAS web interface. The top navigation bar includes the FreeNAS logo and a sidebar menu on the left with categories like Network, Storage, Pools, Snapshots, VMware-Snapshots, Disks, Import Disk, Directory Services, Sharing, Services, Plugins, Jails, Reporting, and Virtual Machines. The main content area is titled 'Storage / Pools' and shows a 'Pools' section with an 'ADD' button. Below this, a status bar for 'data-cloud' indicates it is 'HEALTHY' with '316 KiB (0%) Used / 2.62 GiB Free'. A table lists the pool details:

Name	Type	Used	Available	Compression	Compression Ratio	Readonly	Dedup	Comments
data-cloud	dataset	316 KiB	2.62 GiB	lz4	1.00x	false	off	

Hasil dari pembuatan Pools Storage

# MEMBUAT POOLS STORAGE TAMBAHAN



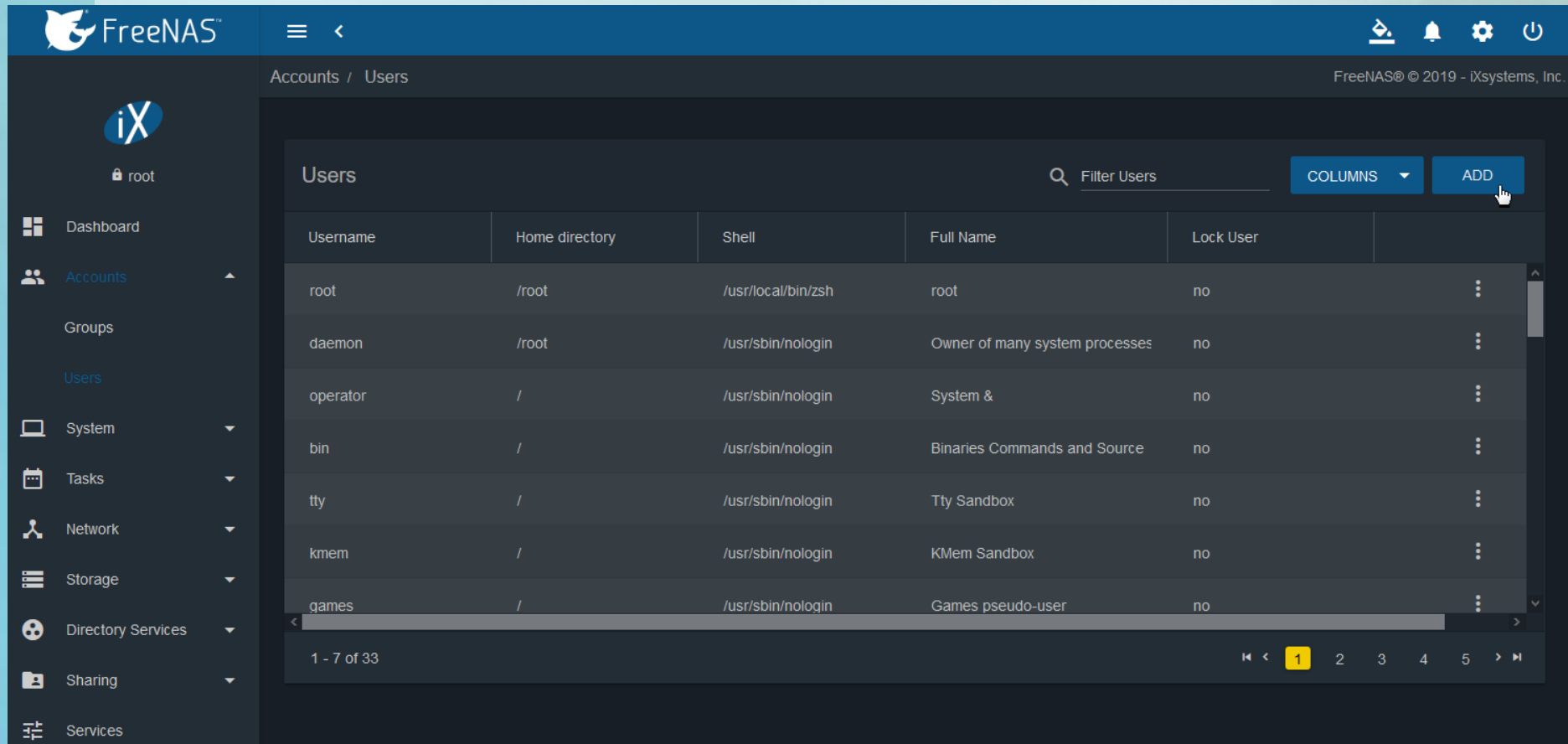
The screenshot shows the FreeNAS web interface. The top navigation bar is blue with the FreeNAS logo and a hamburger menu. The left sidebar is dark grey with icons for Dashboard, Accounts, System, Tasks, Network, Storage (highlighted), Pools, Snapshots, VMware-Snapshots, Disks, and Import Disk. The main content area is dark grey and shows the 'Storage / Pools' page. It contains a table of storage pools with their names, health status, and usage. A blue 'ADD' button is in the top right corner of the pool list.

Pools		ADD
data-cloud	✓ HEALTHY: 7.03 MiB (0%) Used / 2.62 GiB Free	▼
data-jaringan	✓ HEALTHY: 352 KiB (0%) Used / 5.33 GiB Free	▼
data-komputasi	✓ HEALTHY: 460 KiB (0%) Used / 12.11 GiB Free	▼
data-sisdig	✓ HEALTHY: 508 KiB (0%) Used / 831.09 MiB Free	▼

Buat kembali Pools untuk:

- da1 -> data-jaringan
- da2 -> data-komputasi
- da3 -> data-sisdig

# MEMBUAT USER ACCOUNT



FreeNAS™

Accounts / Users

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Users

Filter Users

COLUMNS

ADD

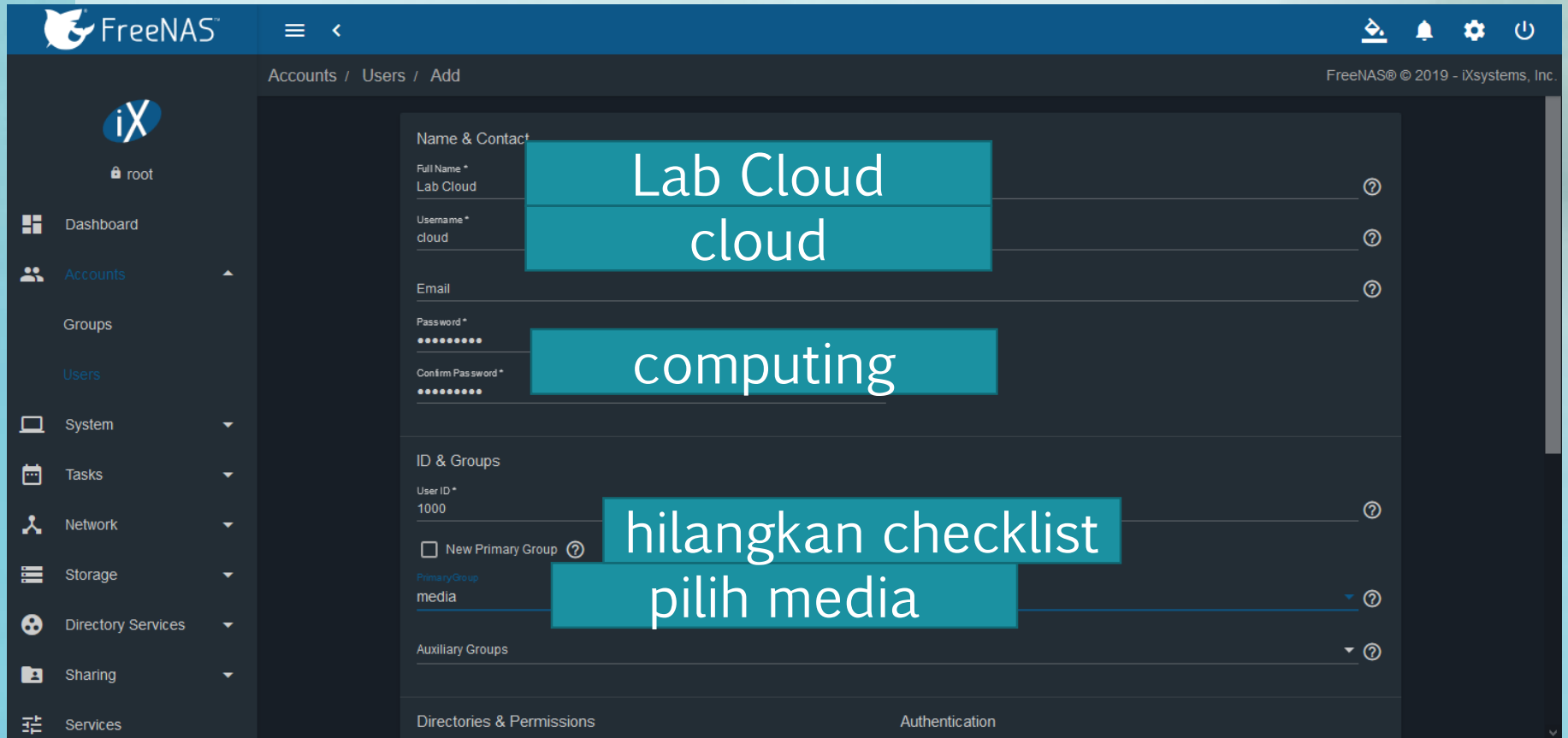
Username	Home directory	Shell	Full Name	Lock User	
root	/root	/usr/local/bin/zsh	root	no	⋮
daemon	/root	/usr/sbin/nologin	Owner of many system processes	no	⋮
operator	/	/usr/sbin/nologin	System &	no	⋮
bin	/	/usr/sbin/nologin	Binaries Commands and Source	no	⋮
tty	/	/usr/sbin/nologin	Tty Sandbox	no	⋮
kmem	/	/usr/sbin/nologin	KMem Sandbox	no	⋮
games	/	/usr/sbin/nologin	Games pseudo-user	no	⋮

1 - 7 of 33

1 2 3 4 5

Masuk ke submenu Accounts -> Users lalu buat user baru dengan cara klik “Add”

# MEMBUAT USER ACCOUNT



The image shows the FreeNAS web interface for adding a new user. The interface is in a dark theme. On the left is a sidebar with navigation links: Dashboard, Accounts, Groups, Users, System, Tasks, Network, Storage, Directory Services, Sharing, and Services. The main content area is titled 'Accounts / Users / Add'. It contains two main sections: 'Name & Contact' and 'ID & Groups'. The 'Name & Contact' section has fields for 'Full Name \*' (containing 'Lab Cloud'), 'Username \*' (containing 'cloud'), 'Email' (empty), 'Password \*' (containing 'computing'), and 'Confirm Password \*' (empty). The 'ID & Groups' section has a 'User ID \*' field (containing '1000'), a 'New Primary Group' checkbox (checked), a 'Primary Group' dropdown menu (set to 'media'), and an 'Auxiliary Groups' dropdown menu (empty). At the bottom, there are two tabs: 'Directories & Permissions' and 'Authentication'. Annotations in teal boxes with white text are overlaid on the form: 'Lab Cloud' over the Full Name field, 'cloud' over the Username field, 'computing' over the Password field, 'hilangkan checklist' over the New Primary Group checkbox, and 'pilih media' over the Primary Group dropdown menu.

FreeNAS™

Accounts / Users / Add

FreeNAS® © 2019 - iXsystems, Inc.

**Name & Contact**

Full Name \*  
Lab Cloud

Username \*  
cloud

Email

Password \*  
computing

Confirm Password \*

**ID & Groups**

User ID \*  
1000

☒ New Primary Group

Primary Group  
media

Auxiliary Groups

Directories & Permissions

Authentication

Isikan bagian “Full Name”, “Username”, “Passwod”, dan pilih Primary Group sesuai gambar di atas

# MEMBUAT USER ACCOUNT

The image shows the FreeNAS web interface for adding a new user account. The interface is in a dark theme. On the left is a sidebar with navigation links: Dashboard, Accounts (selected), Groups, Users, System, Tasks, Network, Storage, Directory Services, Sharing, and Services. The main content area is titled 'Accounts / Users / Add'. It contains several sections: 'New Primary Group' with a dropdown menu set to 'media'; 'Auxiliary Groups' with a dropdown menu; 'Directories & Permissions' with a 'Home Directory' field set to '/nonexistent' and a table for 'Home Directory Permissions'; and 'Authentication' with fields for 'SSH Public Key', 'Enable password login' (set to 'Yes'), 'Shell' (set to 'csh'), 'Lock User', 'Permit Sudo' (checked), and 'Microsoft Account' (checked). A red box with the word 'checklist' is overlaid on the 'Permit Sudo' and 'Microsoft Account' checkboxes. At the bottom are 'SAVE' and 'CANCEL' buttons. A hand cursor is pointing at the 'SAVE' button.

FreeNAS™

Accounts / Users / Add

FreeNAS® © 2019 - iXsystems, Inc.

☐ New Primary Group ?

PrimaryGroup  
media

Auxiliary Groups

Directories & Permissions

Home Directory

/nonexistent

Home Directory Permissions ?

	Owner	Group	Other
Read	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Write	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Execute	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Authentication

SSH Public Key

Enable password login  
Yes

Shell  
csh

☐ Lock User ?

☒ Permit Sudo ?

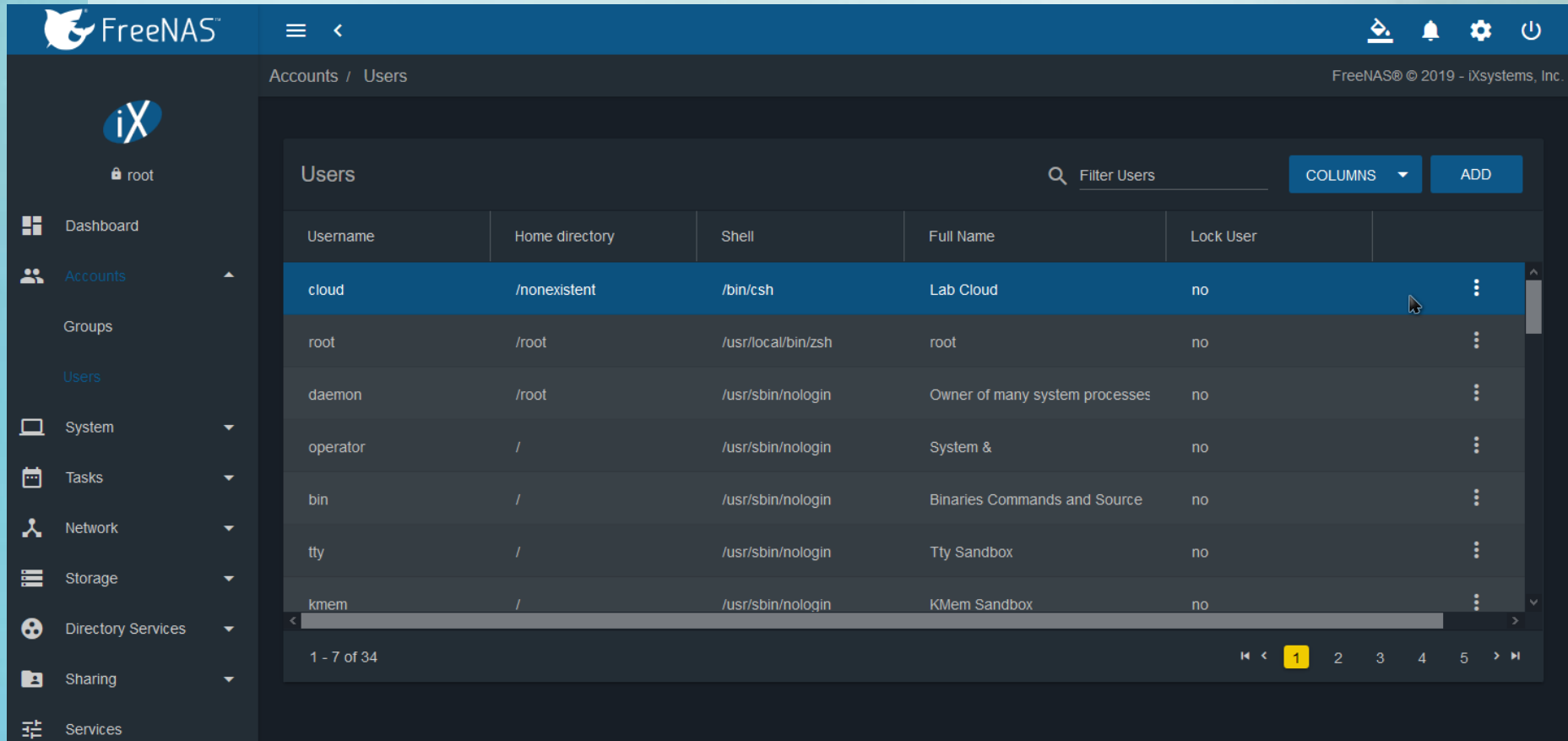
☒ Microsoft Account ?

SAVE CANCEL

checklist

Isikan checklist untuk bagian “Permit Sudo” dan “Microsoft Account”, kemudian klik “Save”

# MEMBUAT USER ACCOUNT



The image shows the FreeNAS web interface for managing users. The top navigation bar includes the FreeNAS logo, a hamburger menu, and icons for search, notifications, settings, and power. The breadcrumb trail indicates the current location is 'Accounts / Users'. The left sidebar contains a navigation menu with options: Dashboard, Accounts (selected), Groups, Users, System, Tasks, Network, Storage, Directory Services, Sharing, and Services. The main content area displays a table of users. The 'cloud' user is highlighted in blue. The table has columns for Username, Home directory, Shell, Full Name, and Lock User. A search bar and 'Filter Users' button are at the top right of the table. A 'COLUMNS' dropdown and an 'ADD' button are also present. The bottom of the table shows pagination: '1 - 7 of 34' and a series of numbered links (1, 2, 3, 4, 5) with navigation arrows.

FreeNAS™

Accounts / Users

FreeNAS® © 2019 - iXsystems, Inc.

Users

Filter Users

COLUMNS ADD

Username	Home directory	Shell	Full Name	Lock User	
cloud	/nonexistent	/bin/csh	Lab Cloud	no	⋮
root	/root	/usr/local/bin/zsh	root	no	⋮
daemon	/root	/usr/sbin/nologin	Owner of many system processes	no	⋮
operator	/	/usr/sbin/nologin	System &	no	⋮
bin	/	/usr/sbin/nologin	Binaries Commands and Source	no	⋮
tty	/	/usr/sbin/nologin	Tty Sandbox	no	⋮
kmem	/	/usr/sbin/nologin	KMem Sandbox	no	⋮

1 - 7 of 34

1 2 3 4 5

Hasil pembuatan Account Baru



# MEMBUAT USER ACCOUNT TAMBAHAN

Full Name	Username	Password	Primary Group	Permit Sudo	Microsoft Account
Lab Jaringan	jaringan	jaringan	media	Ya	Ya
Lab Komputasi	komputasi	komputasi	media	Ya	Ya
Lab Sisdig	sisdig	sisdig	media	Ya	Ya

root

Dashboard

Accounts

Groups

Users

System

Tasks

Network

Users

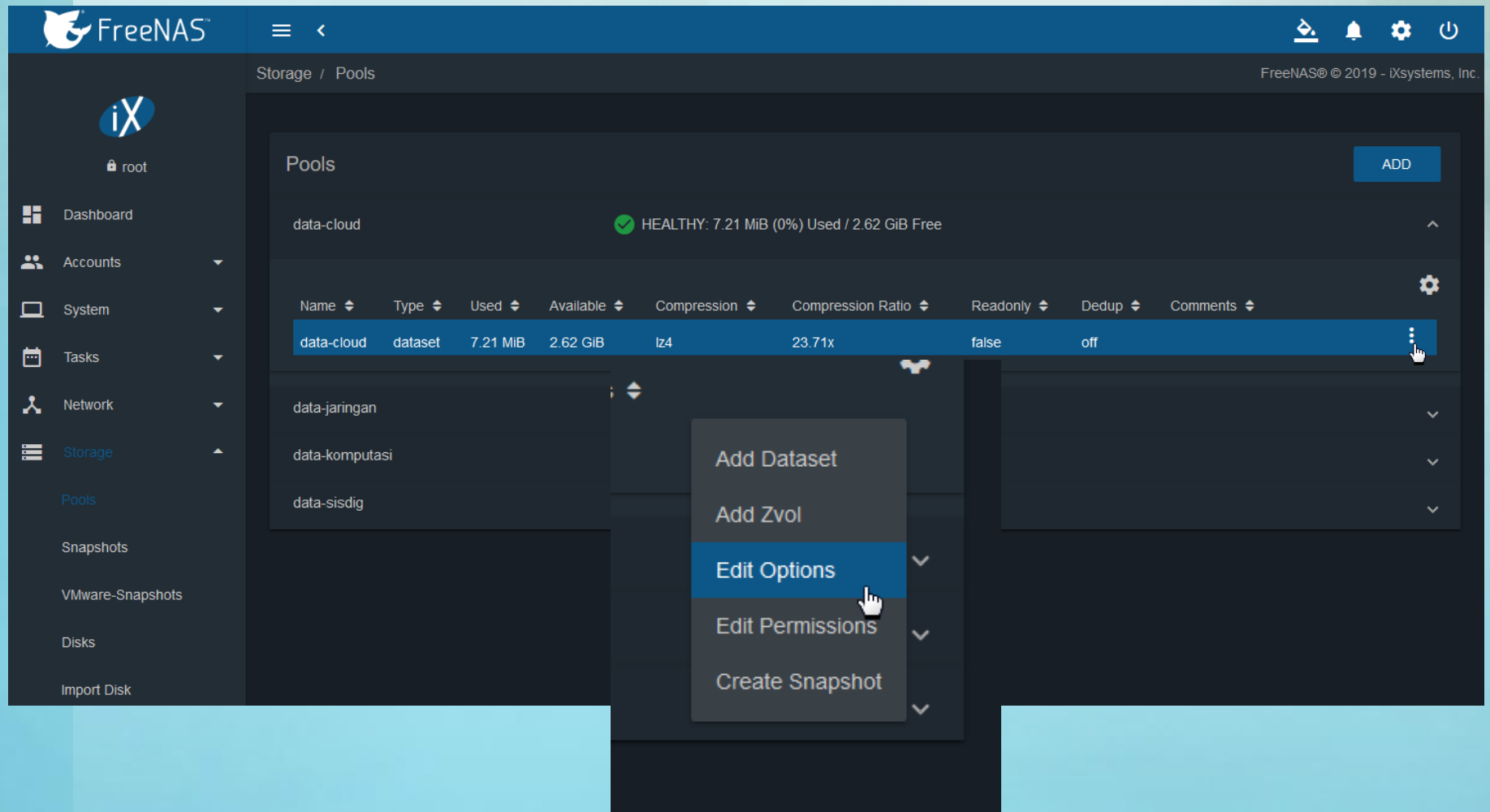
Filter Users

COLUMNS

ADD

Username	Home directory	Shell	Full Name	Lock User	
cloud	/nonexistent	/bin/csh	Lab Cloud	no	
jaringan	/nonexistent	/bin/csh	Lab Jaringan	no	
komputasi	/nonexistent	/bin/csh	Lab Komputasi	no	
sisdig	/nonexistent	/bin/csh	Lab Sisdig	no	
root	/root	/usr/local/bin/zsh	root	no	
...	...	...	...	...	...

# MENGATUR KEMBALI POOLS

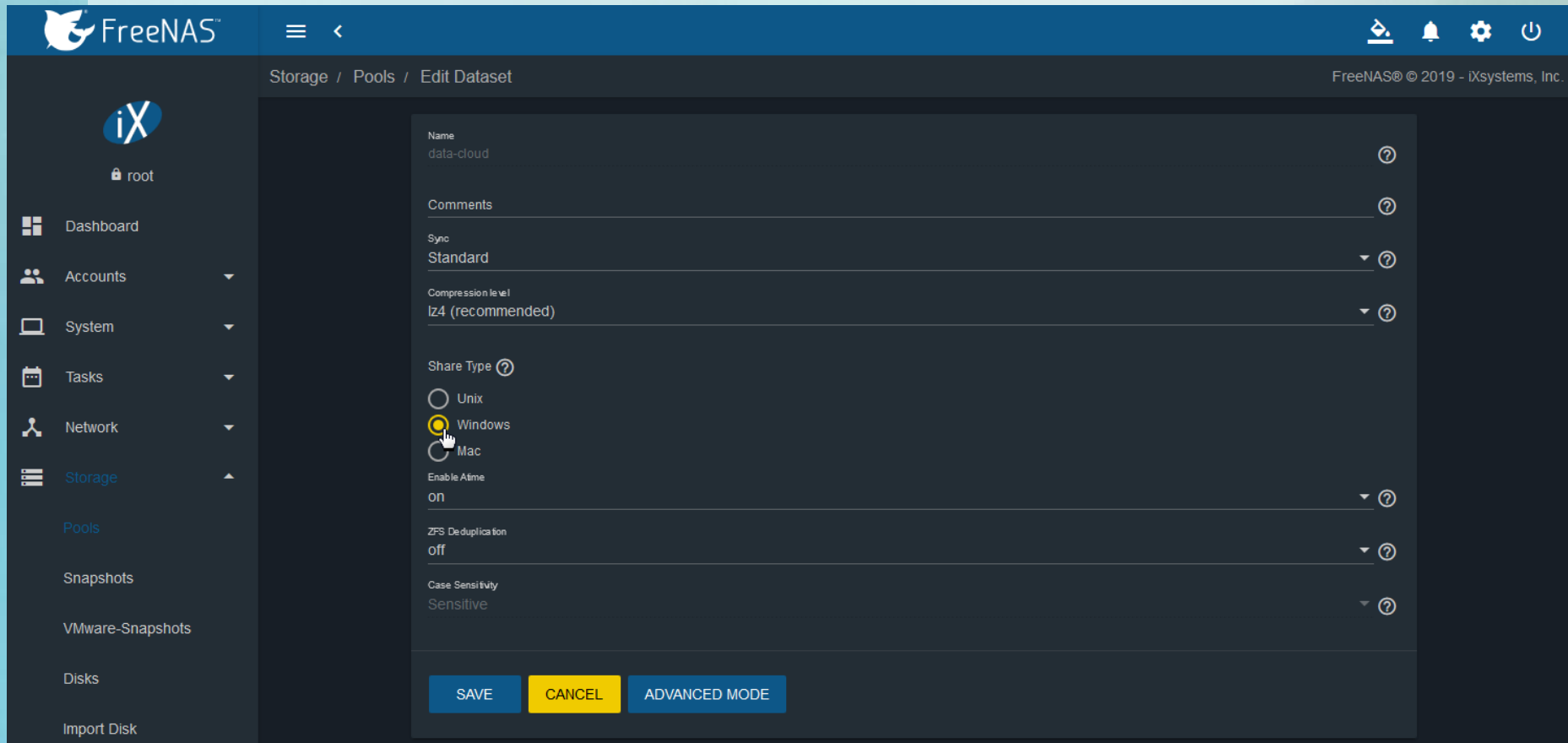


The screenshot shows the FreeNAS web interface. The top navigation bar includes the FreeNAS logo, a hamburger menu, and icons for help, notifications, settings, and power. The breadcrumb trail indicates the current location is 'Storage / Pools'. The left sidebar contains a list of system components: Dashboard, Accounts, System, Tasks, Network, Storage (highlighted), Pools, Snapshots, VMware-Snapshots, Disks, and Import Disk. The main content area displays the 'Pools' management page. At the top, it shows the status of the 'data-cloud' pool as 'HEALTHY' with a green checkmark, and usage information: '7.21 MiB (0%) Used / 2.62 GiB Free'. Below this is a table listing the pools. The 'data-cloud' pool is selected, and a context menu is open, showing options: 'Add Dataset', 'Add Zvol', 'Edit Options' (highlighted), 'Edit Permissions', and 'Create Snapshot'. The table has columns for Name, Type, Used, Available, Compression, Compression Ratio, Readonly, Dedup, and Comments.

Name	Type	Used	Available	Compression	Compression Ratio	Readonly	Dedup	Comments
data-cloud	dataset	7.21 MiB	2.62 GiB	lz4	23.71x	false	off	
data-jaringan								
data-komputasi								
data-sisdig								

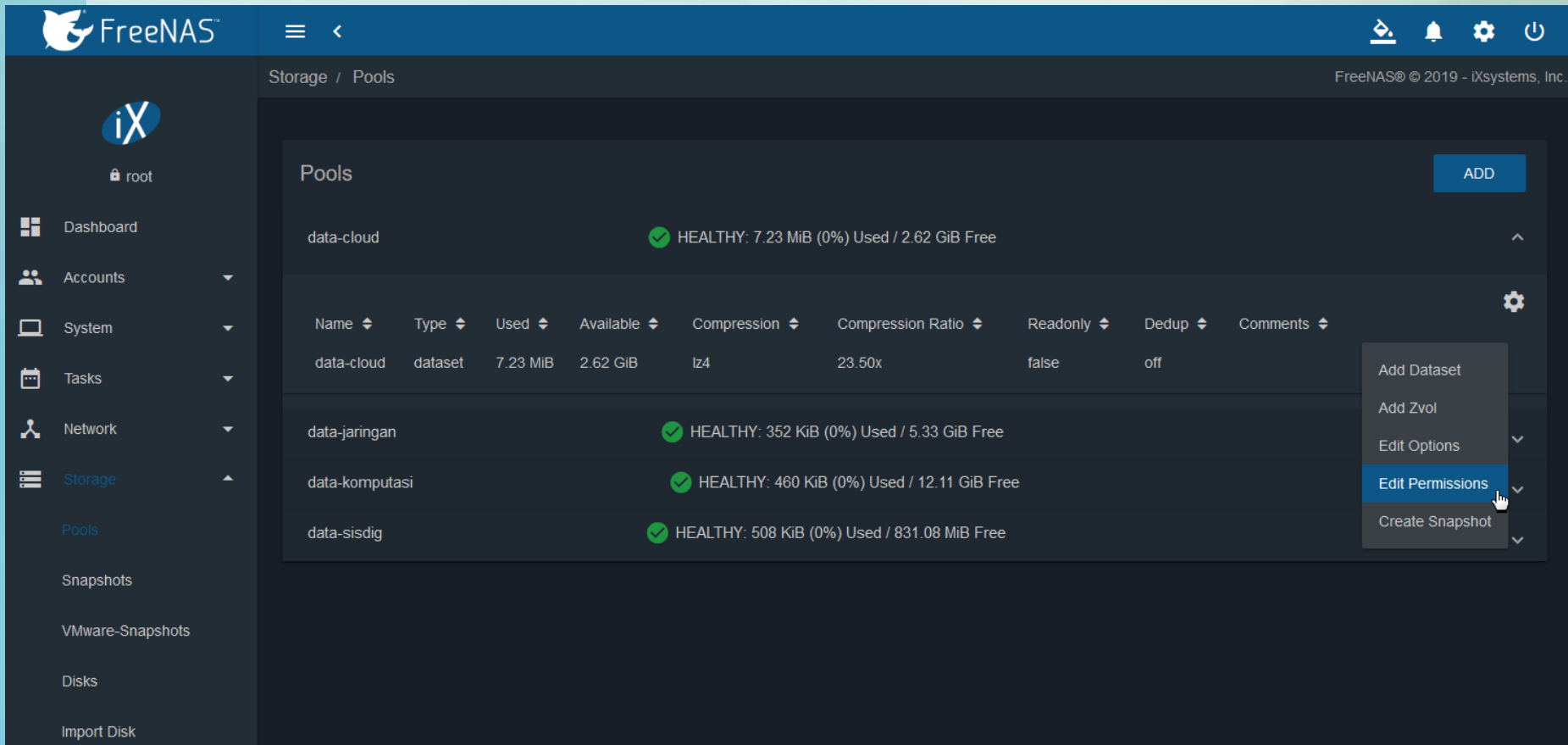
Masuk kembali ke submenu Storage -> Pools, pilih “data-cloud” lalu klik Options (3 dot) pilih Edit Options

# MENGATUR KEMBALI POOLS



Pada bagian “Share Type” gunakan opsi “Windows” dikarenakan yang mengakses dari Windows. Untuk bisa diakses oleh semua OS, pilih Unix. Kemudian klik “Save”.

# MENGATUR KEMBALI POOLS



The screenshot shows the FreeNAS web interface for managing storage pools. The left sidebar contains navigation links: Dashboard, Accounts, System, Tasks, Network, Storage (selected), Pools, Snapshots, VMware-Snapshots, Disks, and Import Disk. The main content area is titled 'Storage / Pools' and shows a list of pools. The 'data-cloud' pool is highlighted, and a context menu is open, showing options: Add Dataset, Add Zvol, Edit Options, Edit Permissions (selected), and Create Snapshot. The table below lists the pools and their status.

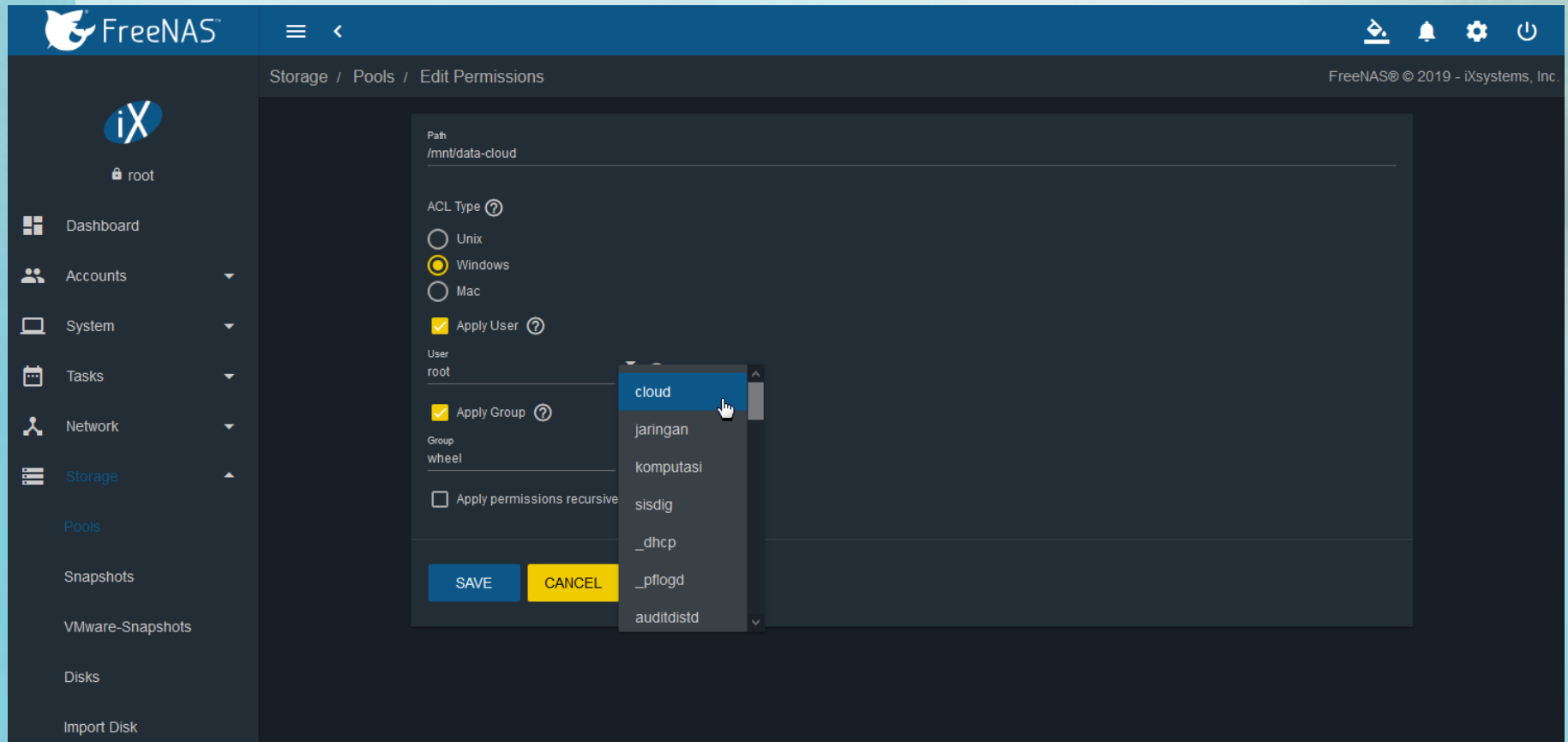
Name	Type	Used	Available	Compression	Compression Ratio	Readonly	Dedup	Comments
data-cloud	dataset	7.23 MiB	2.62 GiB	lz4	23.50x	false	off	
data-jaringan								
data-komputasi								
data-sidig								

Pool status summary:

- data-cloud: HEALTHY: 7.23 MiB (0%) Used / 2.62 GiB Free
- data-jaringan: HEALTHY: 352 KiB (0%) Used / 5.33 GiB Free
- data-komputasi: HEALTHY: 460 KiB (0%) Used / 12.11 GiB Free
- data-sidig: HEALTHY: 508 KiB (0%) Used / 831.08 MiB Free

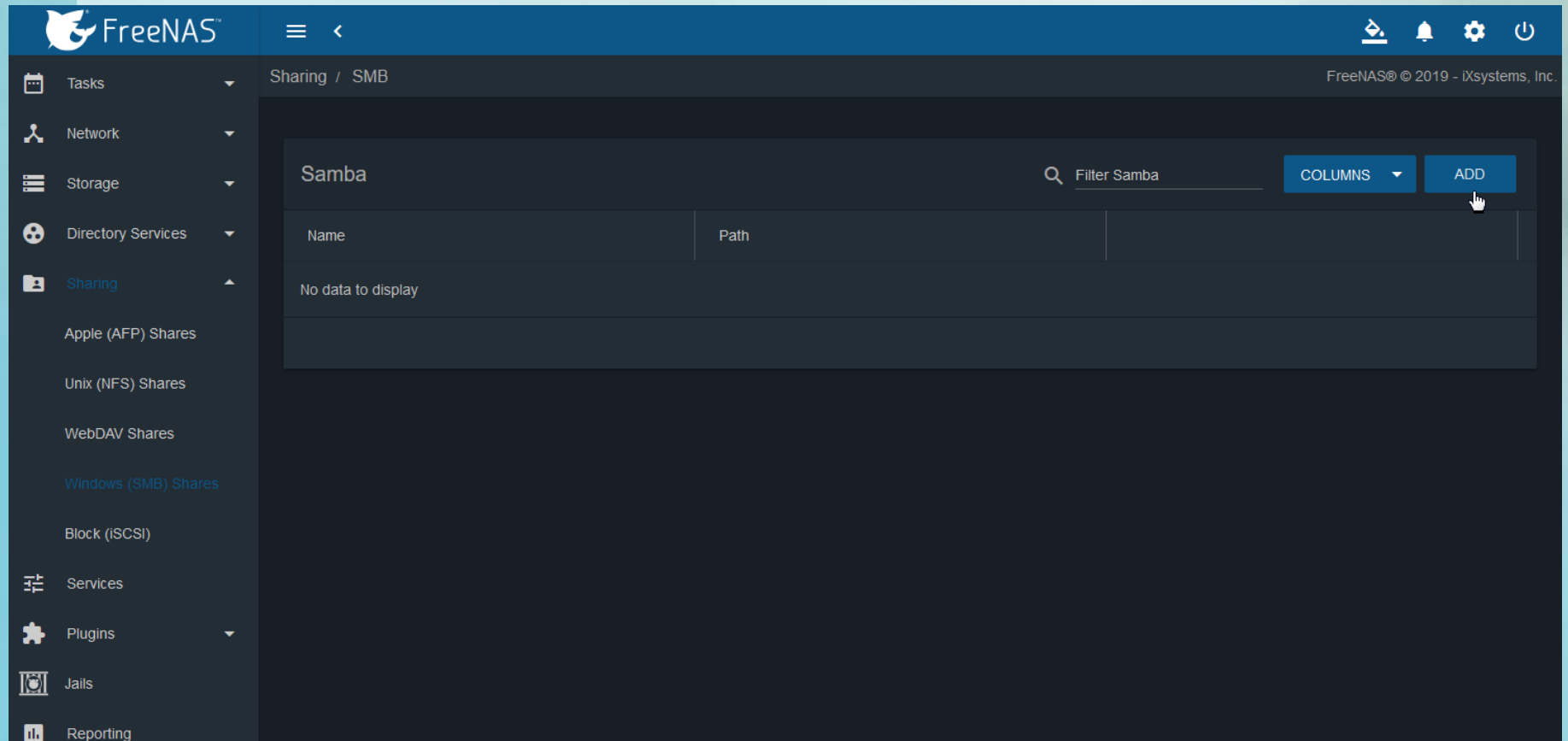
Lanjutkan dengan konfigurasi “Edit Permissions” pada Pools “data-cloud”

# MENGATUR KEMBALI POOLS



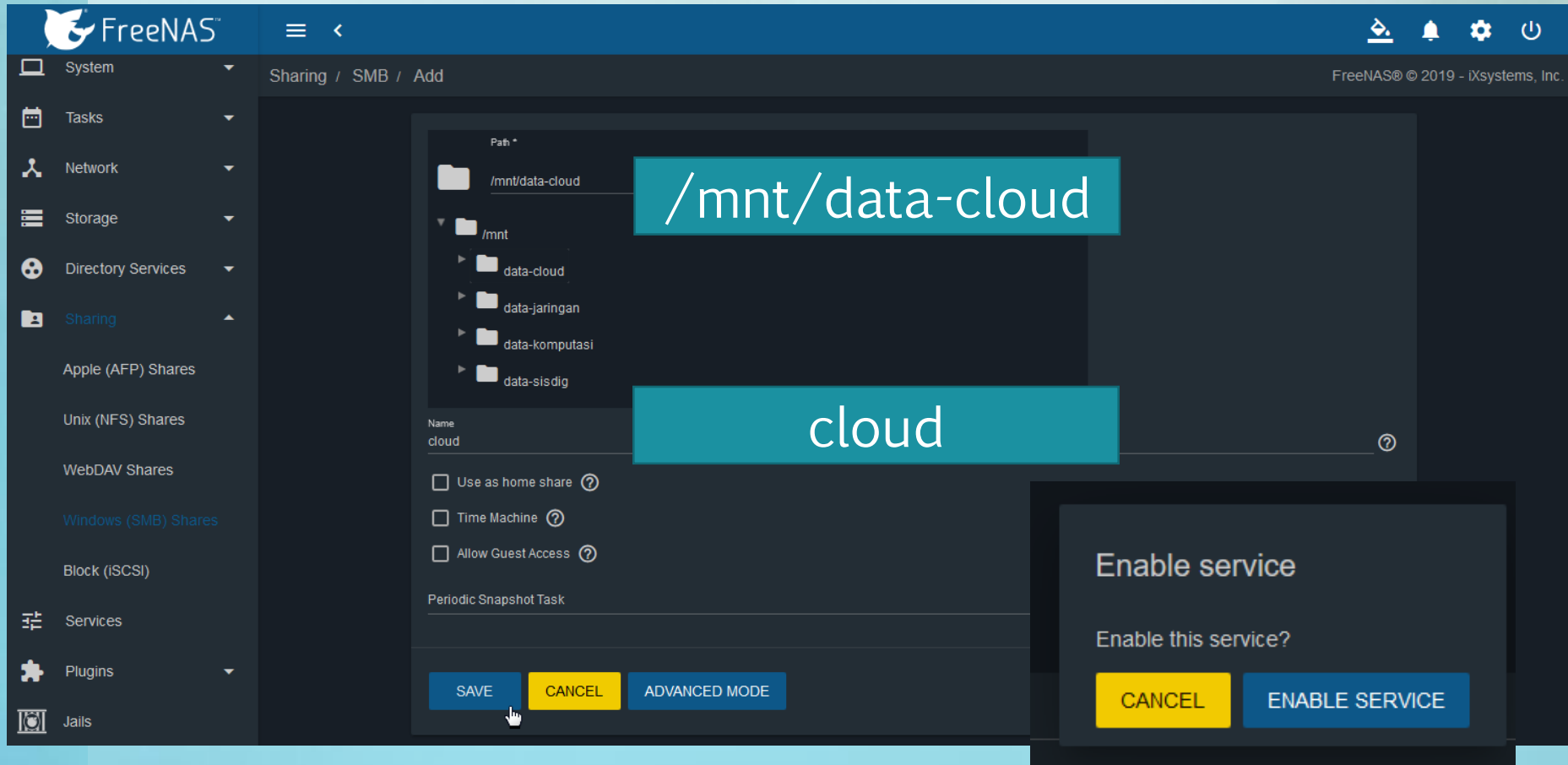
Pilih user cloud untuk pools “data-cloud” kemudian klik  
“Save”

# MENGATUR LAYANAN SHARING SMB



Pilih submenu “Windows (SMB) Shares” kemudian klik  
“Add”

# MENGATUR LAYANAN SHARING SMB



Klik pada gambar Folder lalu klik /mnt lalu klik data-cloud, kemudian isikan nama Sharing “cloud” lalu klik “Save”. Klik “Enable Service” bilamana diminta.



# MENGATUR LAYANAN SHARING SMB

The screenshot displays the FreeNAS web interface for configuring Samba sharing. The sidebar on the left contains various system management categories. The main panel is titled 'Samba' and includes a search filter and a table of configured shares. A single share named 'cloud' is listed with the path '/mnt/data-cloud'. A status notification at the bottom indicates that the service has been successfully started.

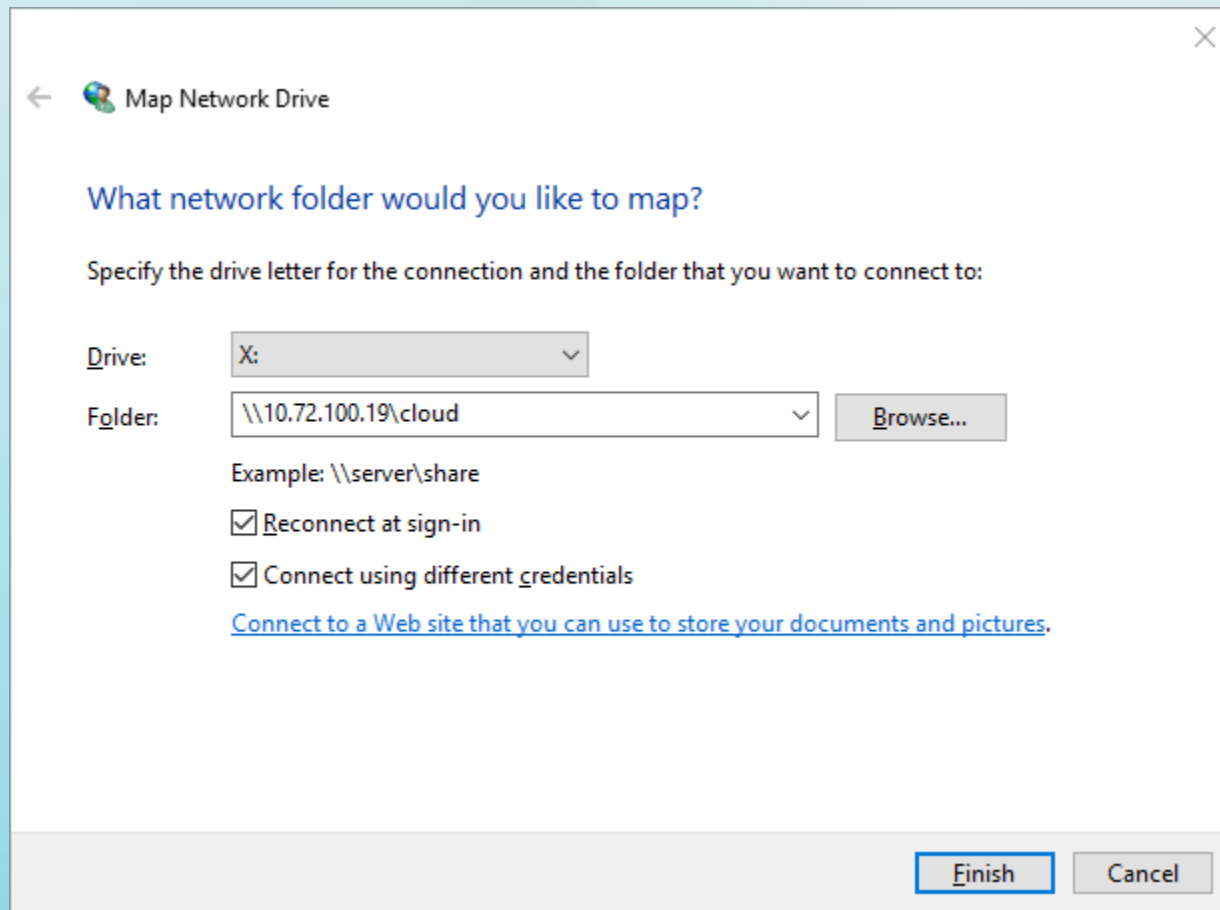
Name	Path
cloud	/mnt/data-cloud

1 - 1 of 1

Service started [close](#)

Hasil penambahan Sharing

# MENCOBA AKSES HASIL SHARING



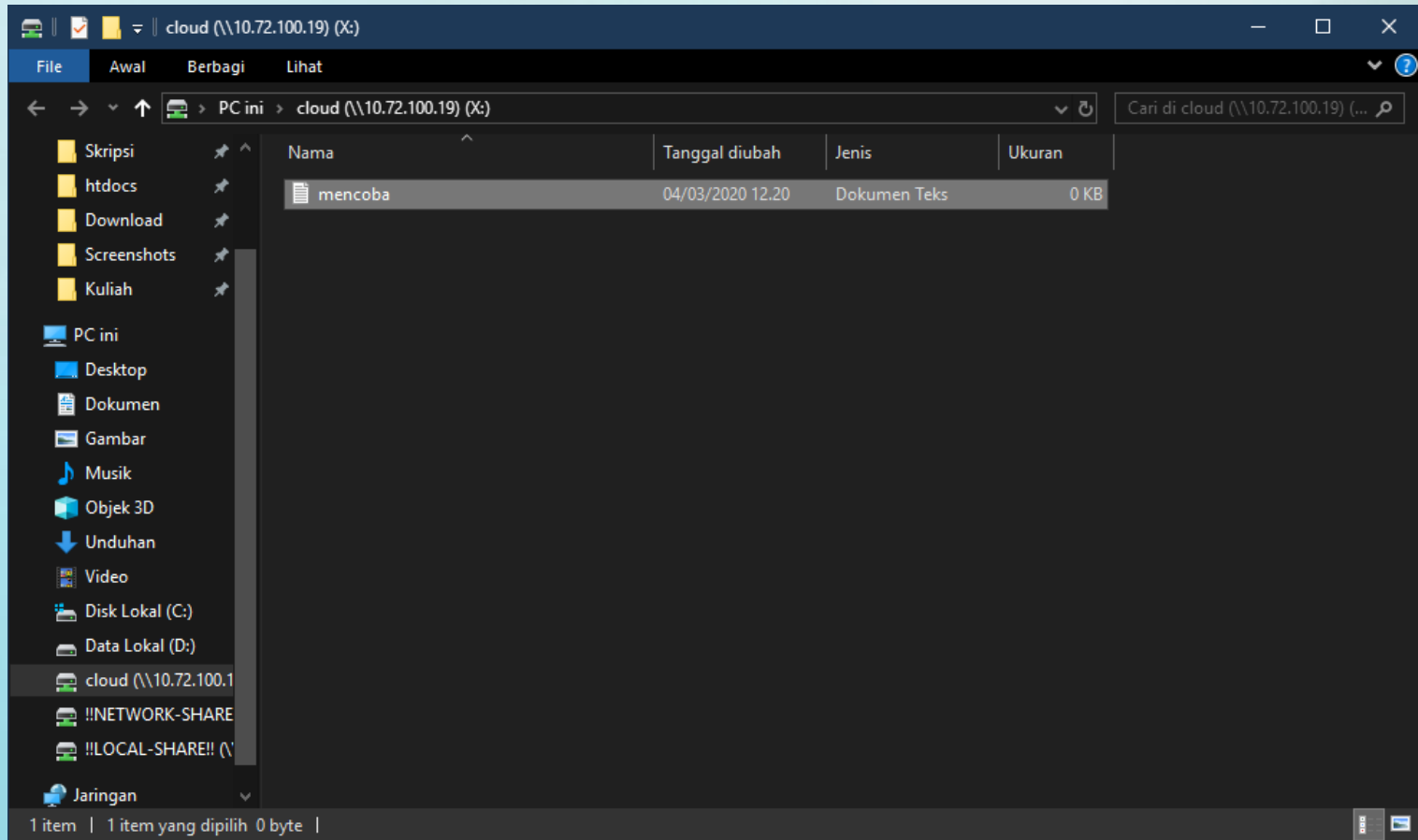
Cobalah akses hasil sharing dengan format URL  
Resource: \\IP.FREENAS\cloud  
Kemudian checklist pada bagian "Connect using..."

# MENCOBA AKSES HASIL SHARING



Gunakan kombinasi user: **cloud** dan pass: **computing**

# MENCOBA AKSES HASIL SHARING



Hasil akhir



Bagian Terakhir

# EVALUASI

# TUGAS: LENGKAPI NOMOR 4-10 PADA BAGIAN KETIGA

4. Tampilkan hasil dari pembuatan pools tambahan pada menu Storage -> Pools

5. Tampilkan hasil dari pembuatan user tambahan pada menu Accounts -> Users

6. Tampilkan hasil dari pembuatan shares tambahan untuk 4 lab pada menu Sharing -> Windows (SMB) Shares

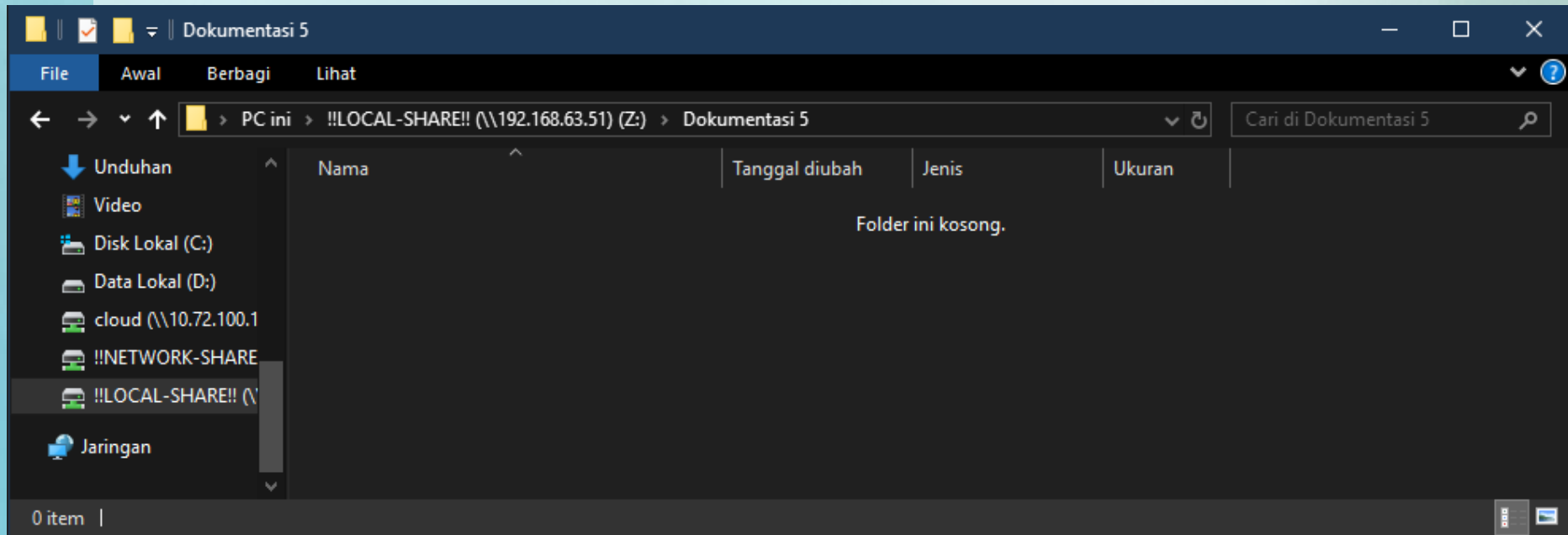
7. Tampilkan hasil akses shares pada Windows Explorer (hasil mapping) untuk Lab Cloud (yang pertama kali dibuat)

8. Tampilkan hasil akses shares untuk Lab Jaringan

9. Tampilkan hasil akses shares untuk Lab Komputasi

10. Tampilkan hasil akses shares untuk Lab Sisdig

# KUMPULKAN DI !!LOCAL-SHARE!! FOLDER DOKUMENTASI 5



Format pengumpulan: NIM.pdf





**TERIMAKASIH**  
SAMPAI JUMPA DI PERTEMUAN KEENAM