BACHELOR OF INFORMATION AND COMMUNICATION TECHNOLOGY

CTNT 32042

Advanced Communication Networks

(2022/2023)

CT/2020/040

WANASINHA W.P.E.M.

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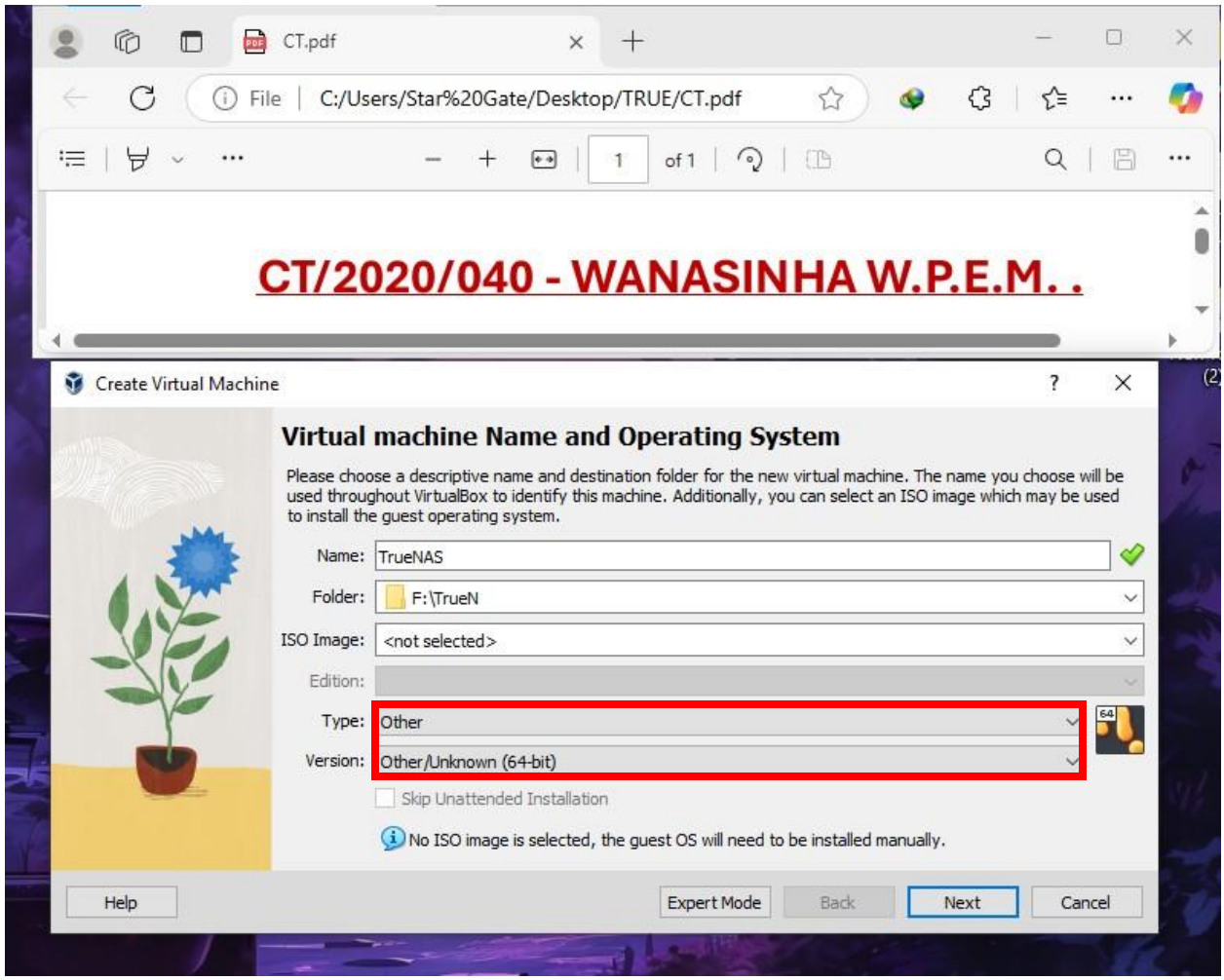
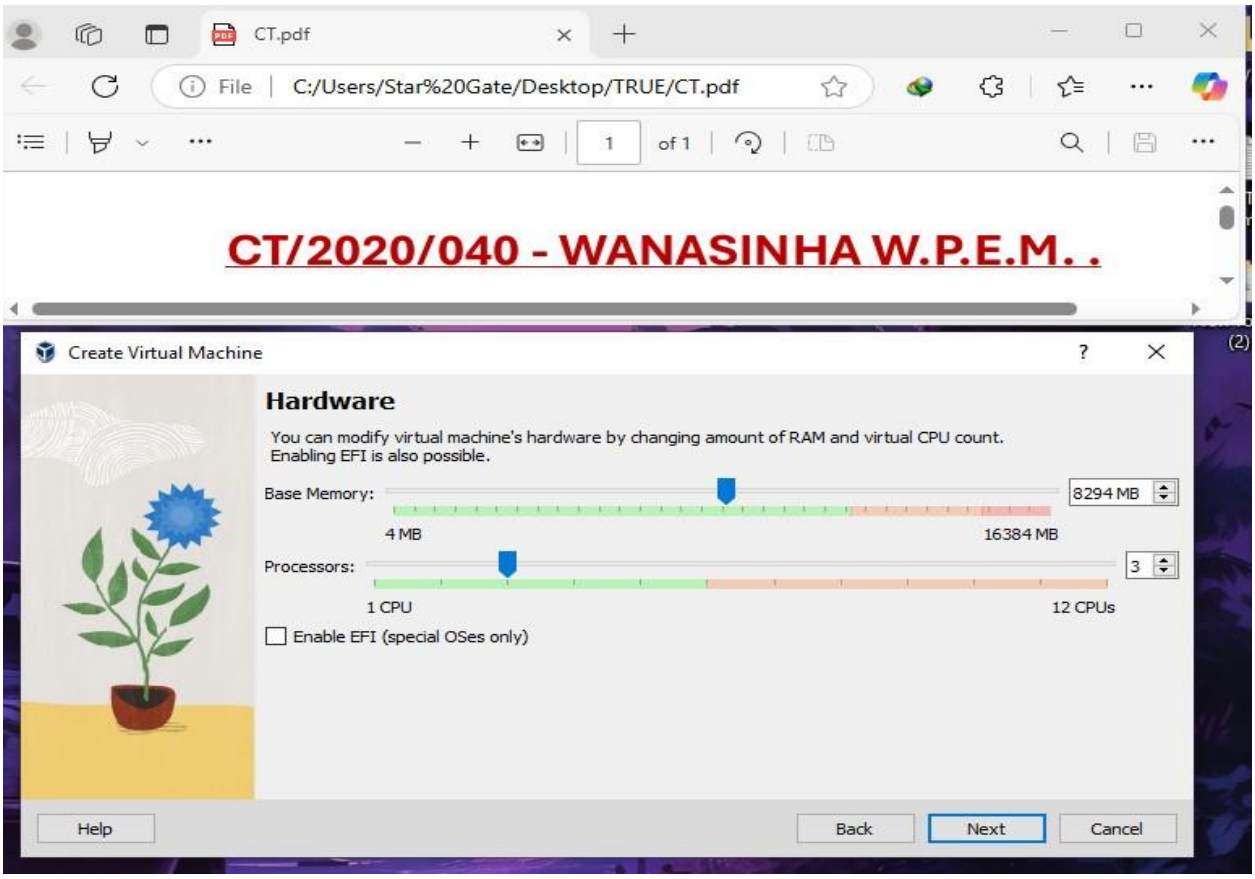
களனி பல்கலைக்கழகம்
UNIVERSITY OF KELANIYA

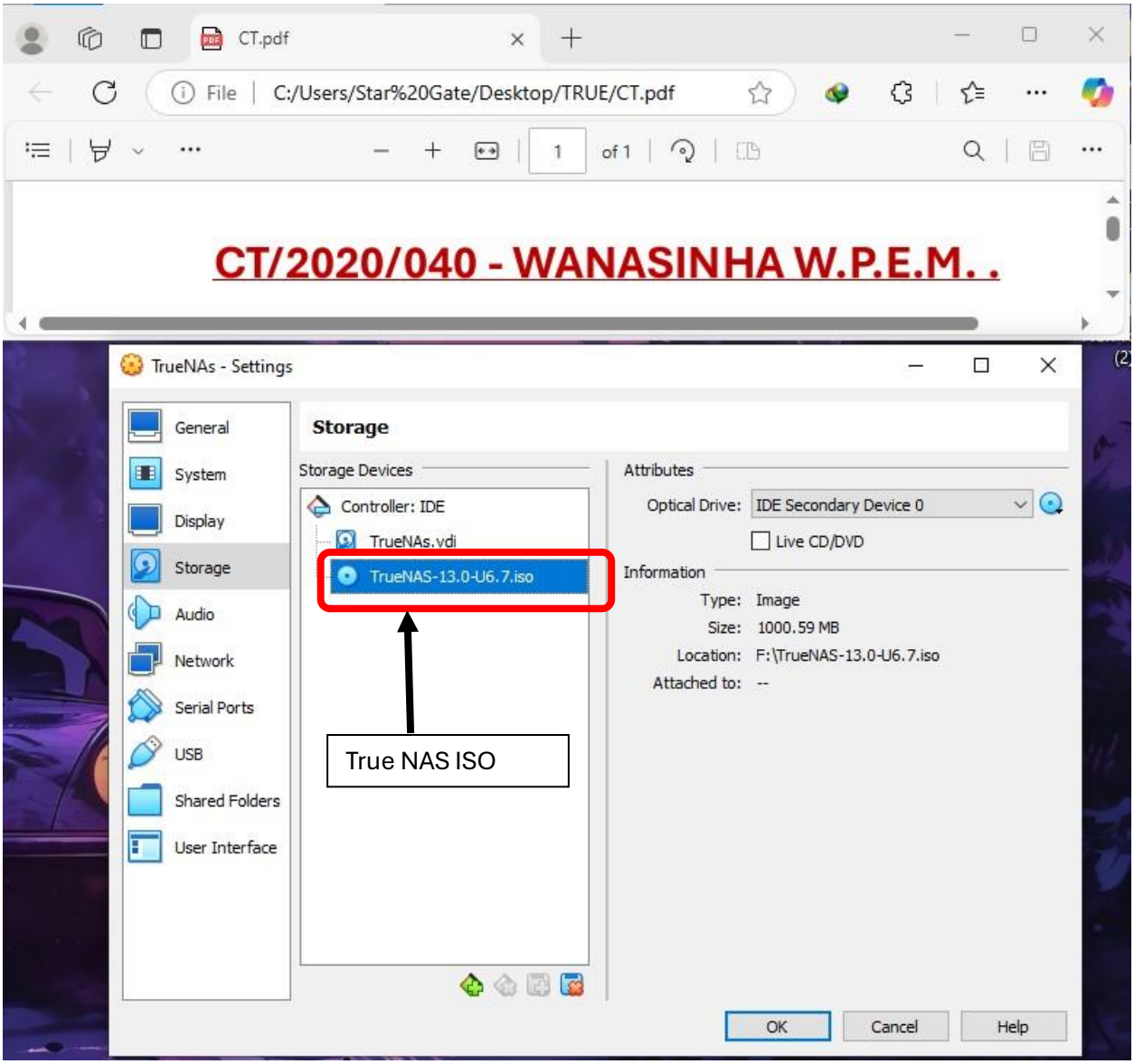
Step 1: Download TrueNAS Core ISO

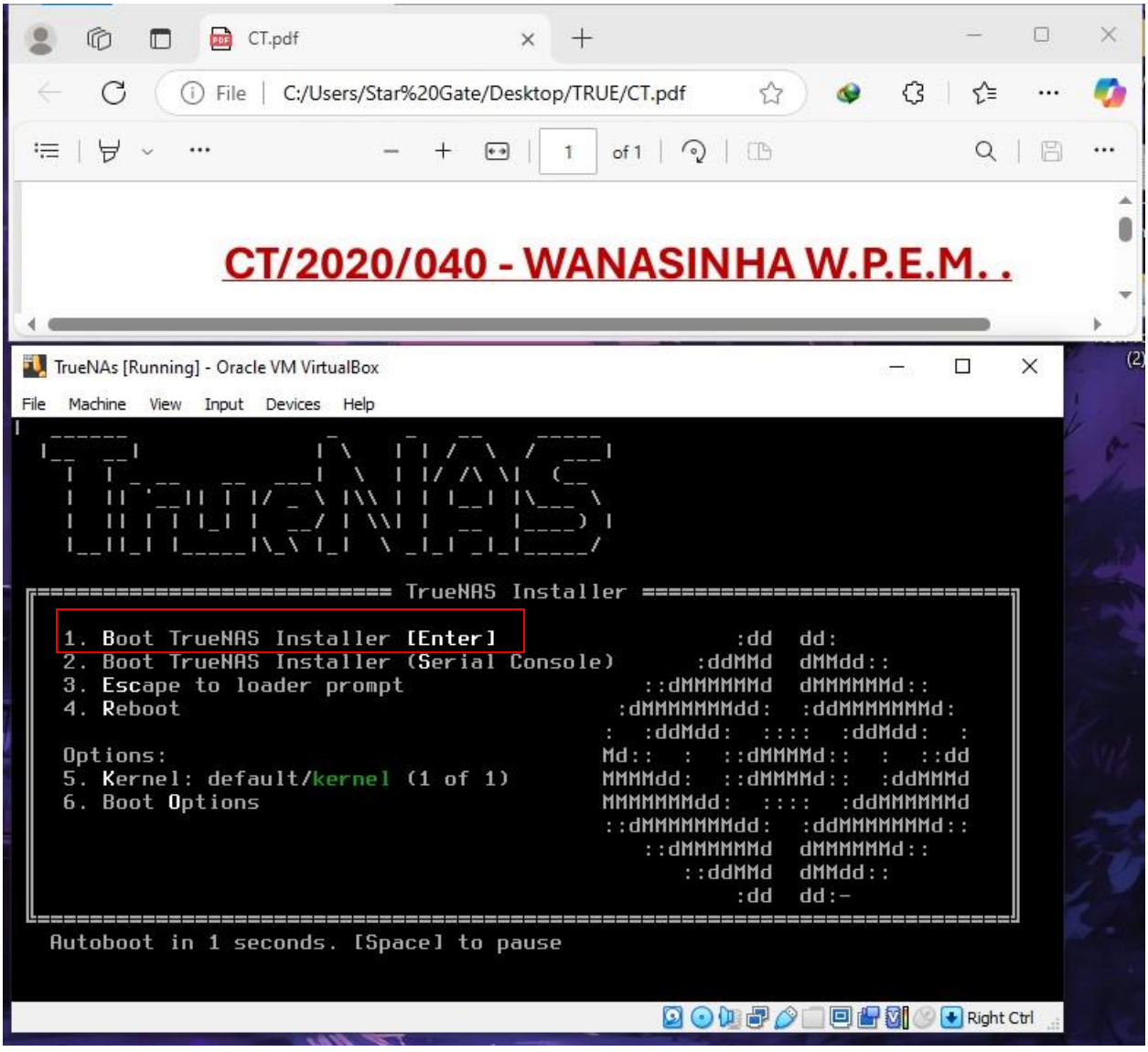
1. Go to the TrueNAS Core website.
2. Download the latest **TrueNAS Core ISO**.

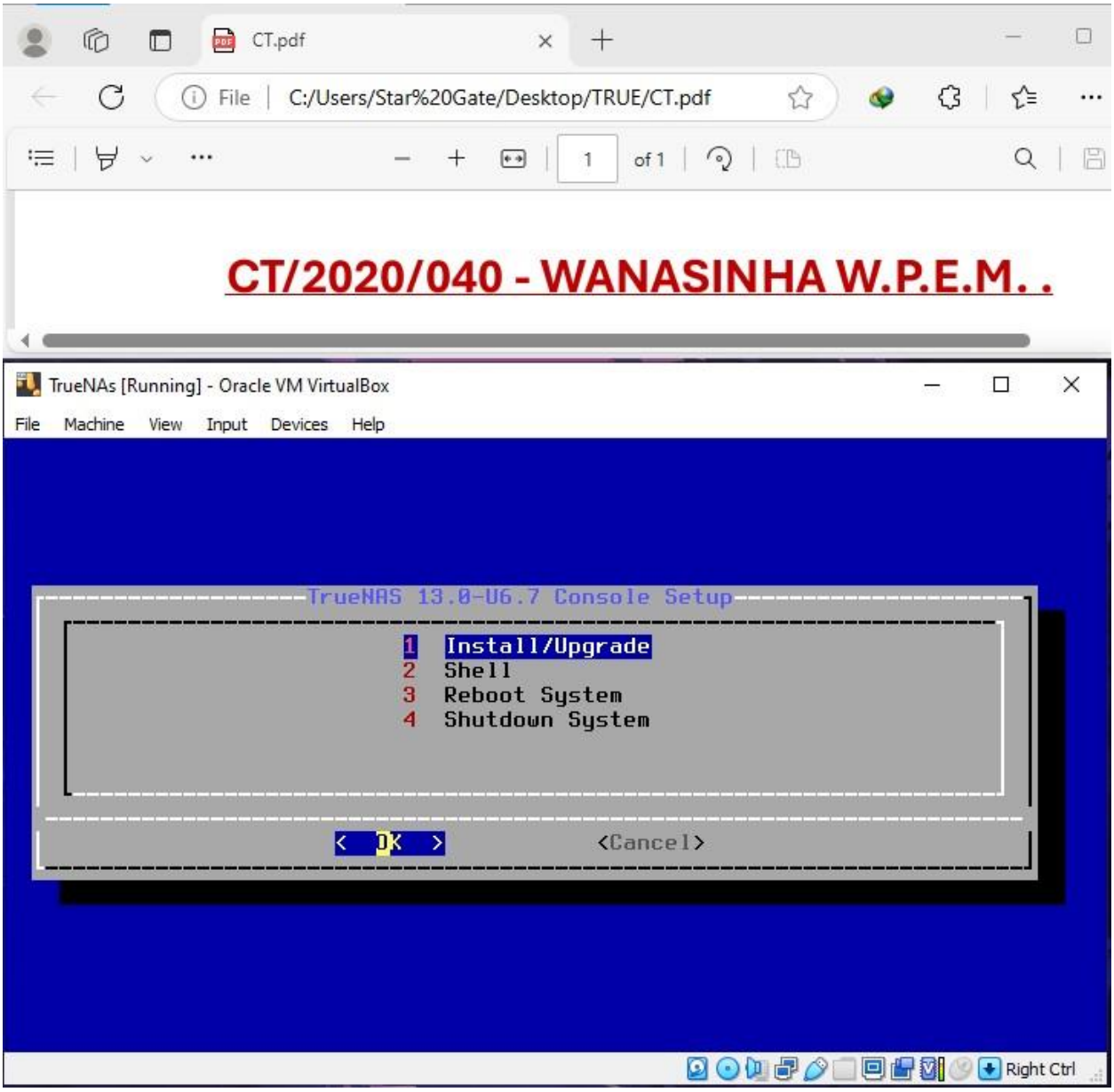
Step 2: Create a Virtual Machine

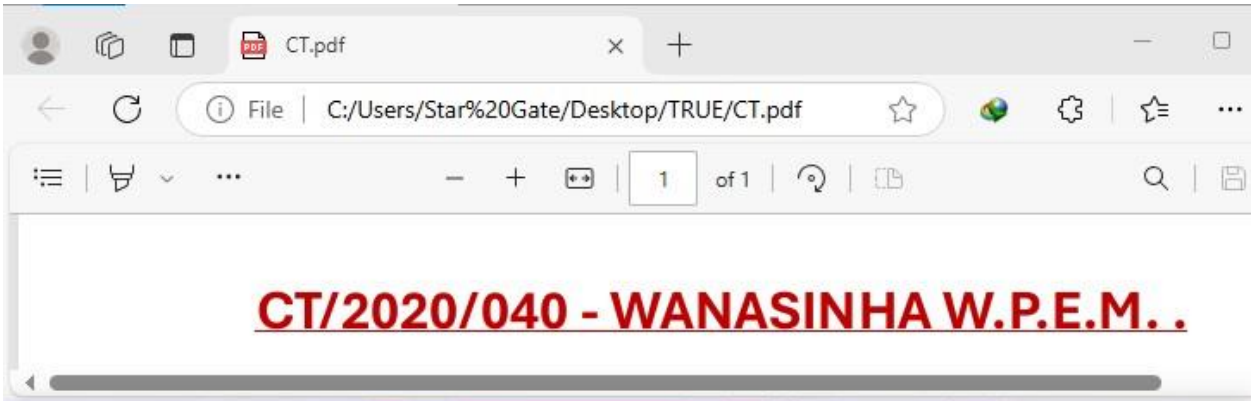


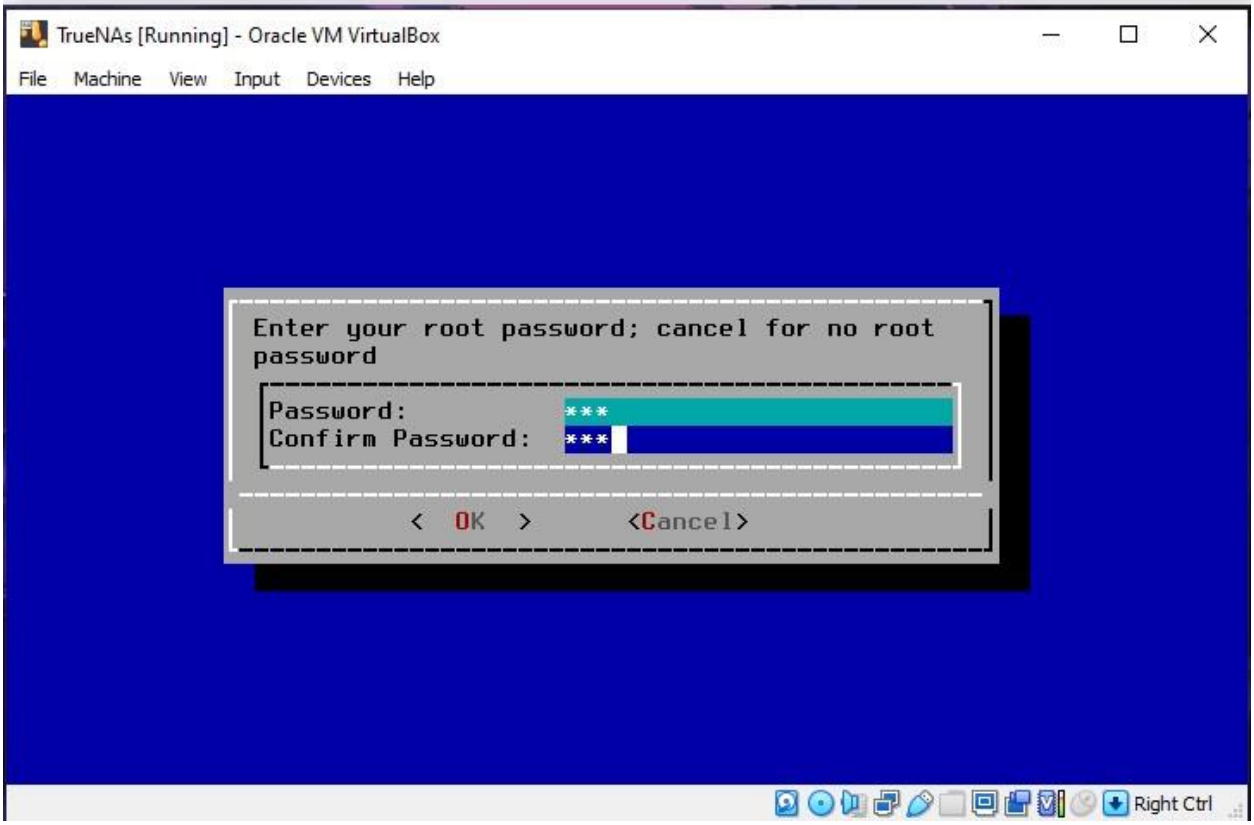

CT.pdf
File | C:/Users/Star%20Gate/Desktop/TRUE/CT.pdf
1
of 1
CT/2020/040 - WANASINHA W.P.E.M. .
Create Virtual Machine
Hardware
You can modify virtual machine's hardware by changing amount of RAM and virtual CPU count.
Enabling EFI is also possible.
Base Memory:
8294 MB
4 MB
16384 MB
Processors:
3
1 CPU
12 CPUs
Enable EFI (special OSes only)
Help
Back
Next
Cancel

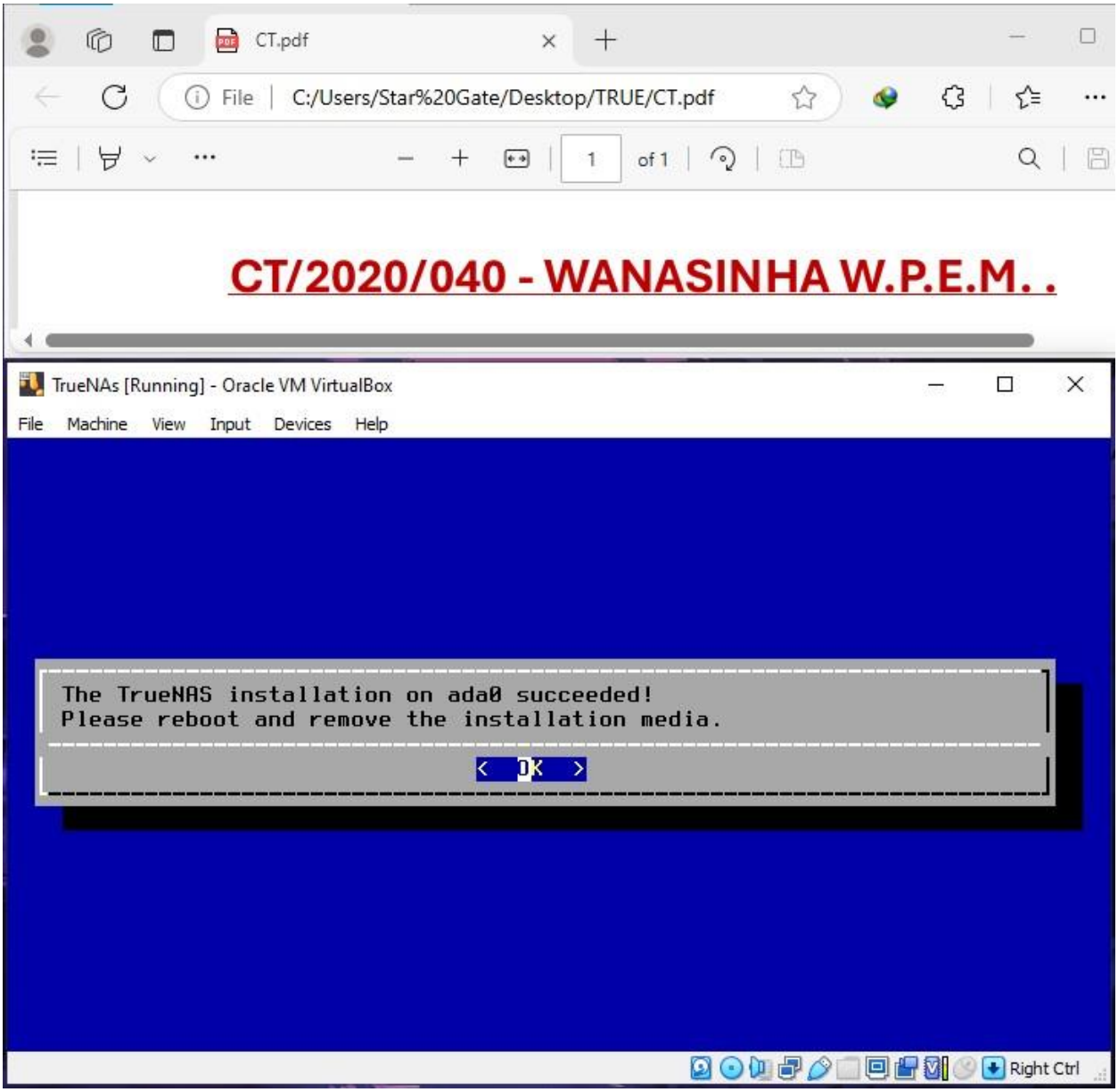

CT.pdf
File | C:/Users/Star%20Gate/Desktop/TRUE/CT.pdf
1
of 1
CT/2020/040 - WANASINHA W.P.E.M. .
TrueNAs - Settings
General
System
Display
Storage
Audio
Network
Serial Ports
USB
Shared Folders
User Interface
Storage
Storage Devices
Controller: IDE
TrueNAs.vdi
TrueNAS-13.0-U6.7.iso
True NAS ISO
Attributes
Optical Drive: IDE Secondary Device 0
Live CD/DVD
Information
Type: Image
Size: 1000.59 MB
Location: F:\TrueNAS-13.0-U6.7.iso
Attached to: --
OK
Cancel
Help


CT.pdf
File | C:/Users/Star%20Gate/Desktop/TRUE/CT.pdf
1 of 1
CT/2020/040 - WANASINHA W.P.E.M. .
TrueNAs [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
TrueNAS Installer
1. Boot TrueNAS Installer [Enter]
2. Boot TrueNAS Installer (Serial Console)
3. Escape to loader prompt
4. Reboot
Options:
5. Kernel: default/kernel (1 of 1)
6. Boot Options
Autoboot in 1 seconds. [Space] to pause
Right Ctrl

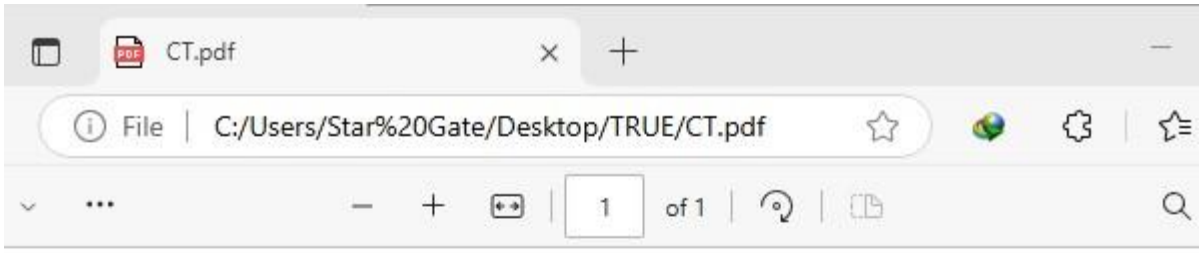

CT.pdf
File | C:/Users/Star%20Gate/Desktop/TRUE/CT.pdf
1 of 1
CT/2020/040 - WANASINHA W.P.E.M. .
TrueNAs [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
TrueNAS 13.0-U6.7 Console Setup
1 Install/Upgrade
2 Shell
3 Reboot System
4 Shutdown System
< OK >
<Cancel>
Right Ctrl


CT.pdf
File | C:/Users/Star%20Gate/Desktop/TRUE/CT.pdf
1
of 1
CT/2020/040 - WANASINHA W.P.E.M. .


TrueNAs [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
Enter your root password; cancel for no root password
Password: ***
Confirm Password: ***
< OK >
<Cancel>
Right Ctrl


CT.pdf
File | C:/Users/Star%20Gate/Desktop/TRUE/CT.pdf
1 of 1
CT/2020/040 - WANASINHA W.P.E.M. .
TrueNAs [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
The TrueNAS installation on ada0 succeeded!
Please reboot and remove the installation media.
< OK >
Right Ctrl

dynamic disks of the same size (allocate at least 300GB in total).



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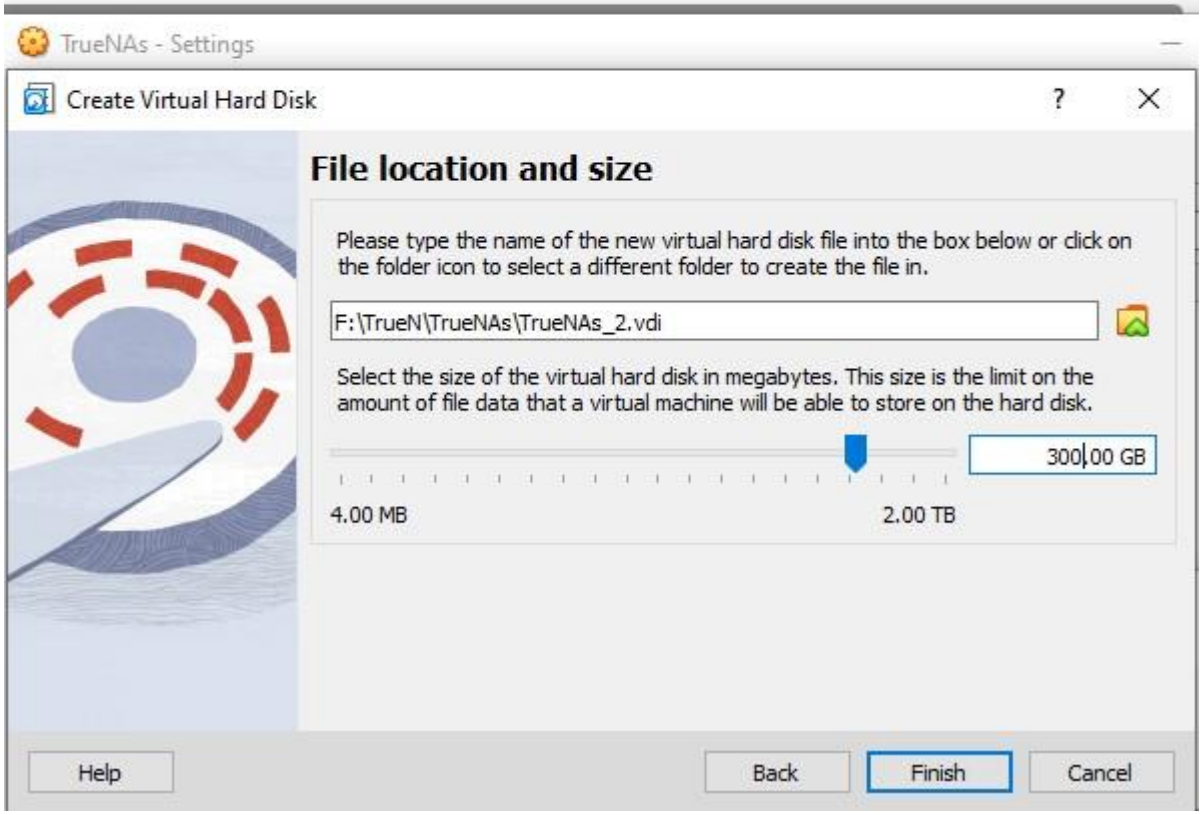

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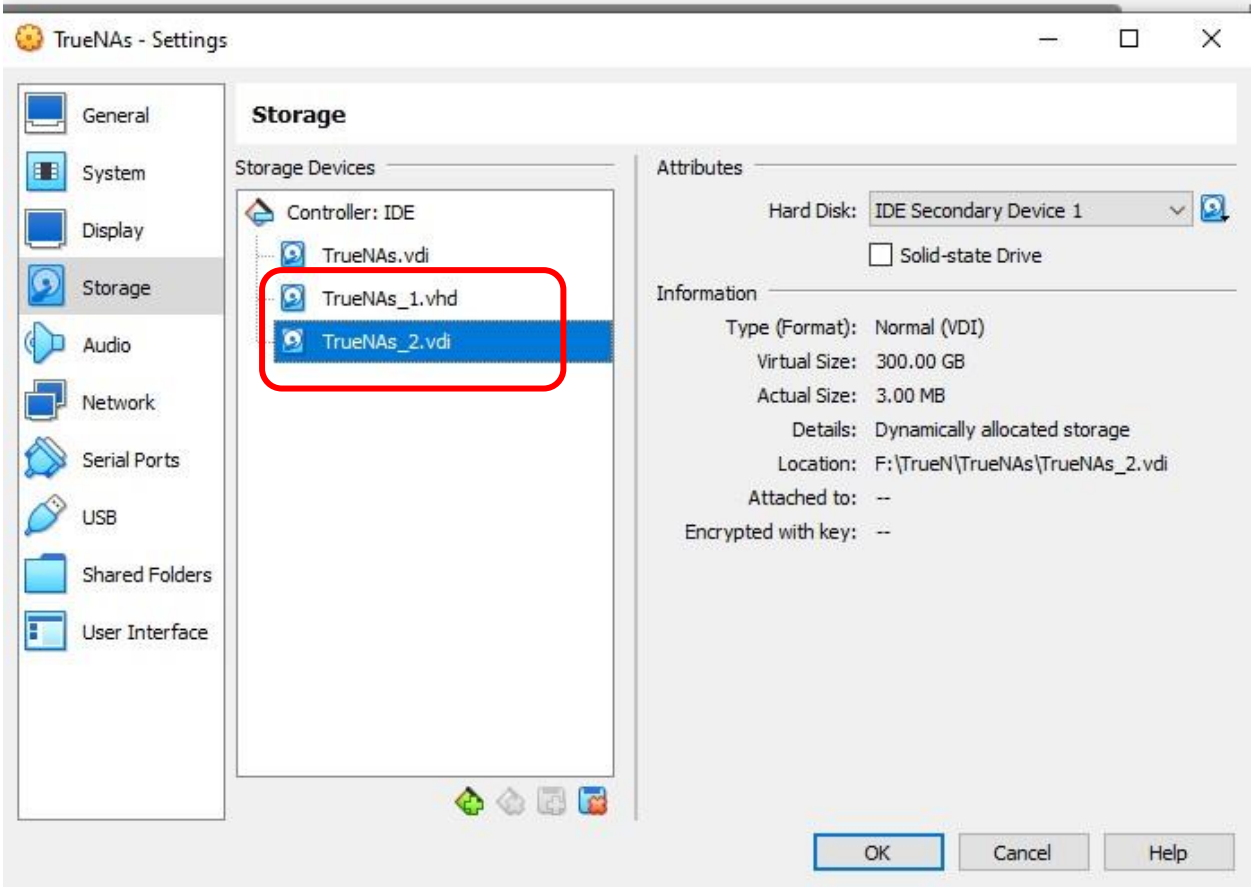
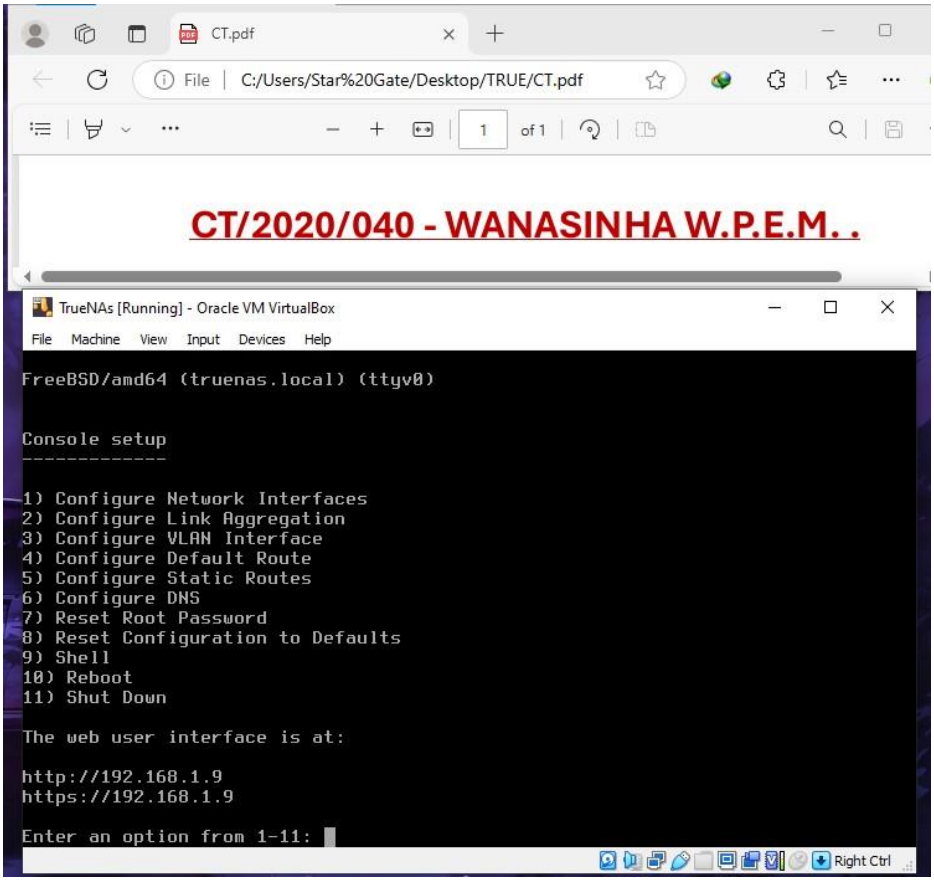
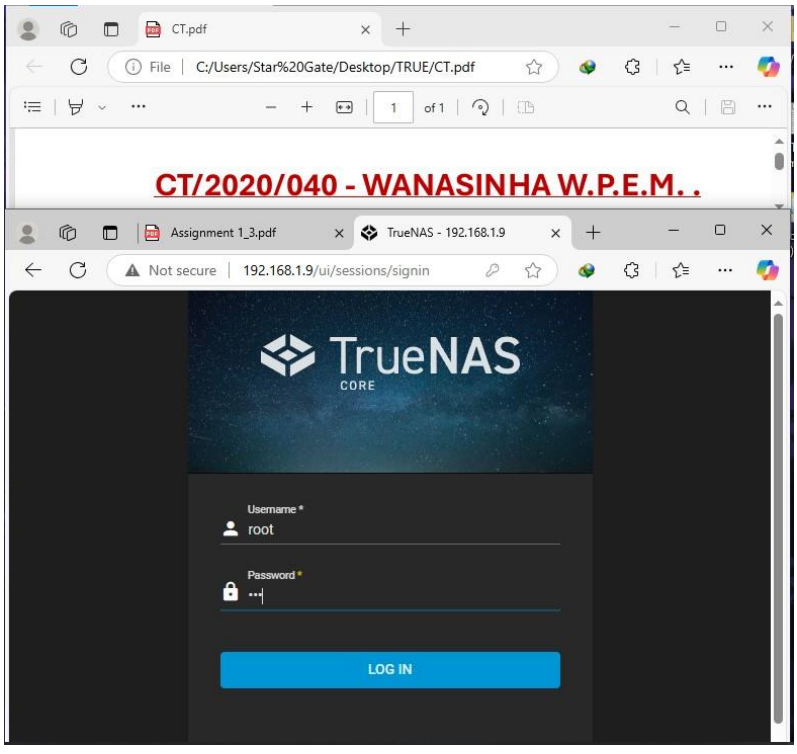


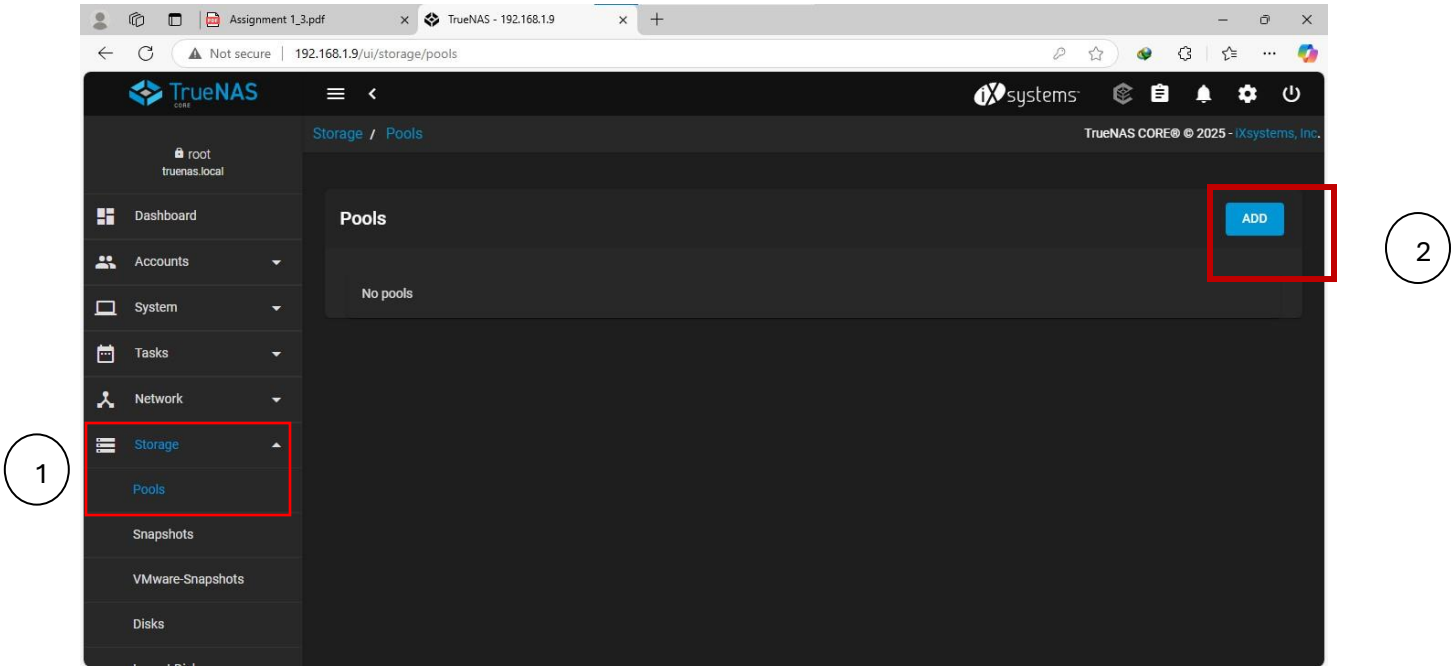
- **Once installation is complete, remove the ISO and reboot.**

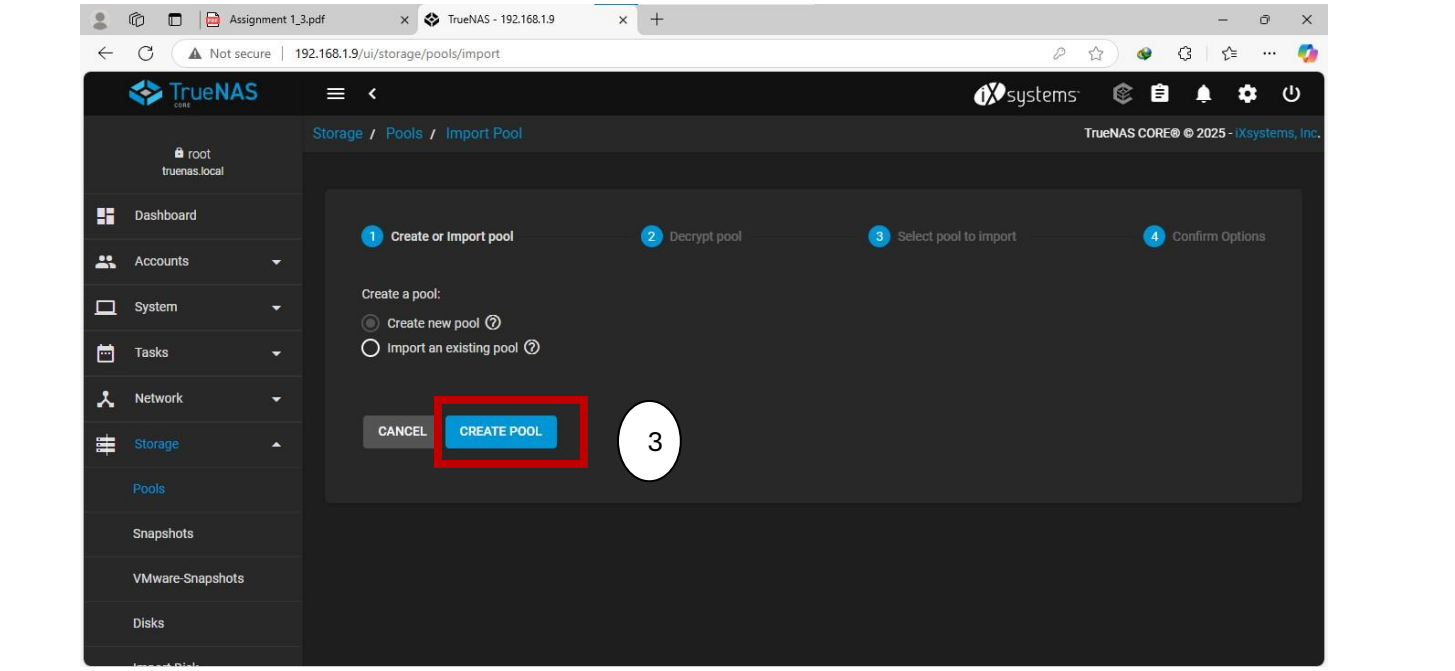
True NAS Core is running

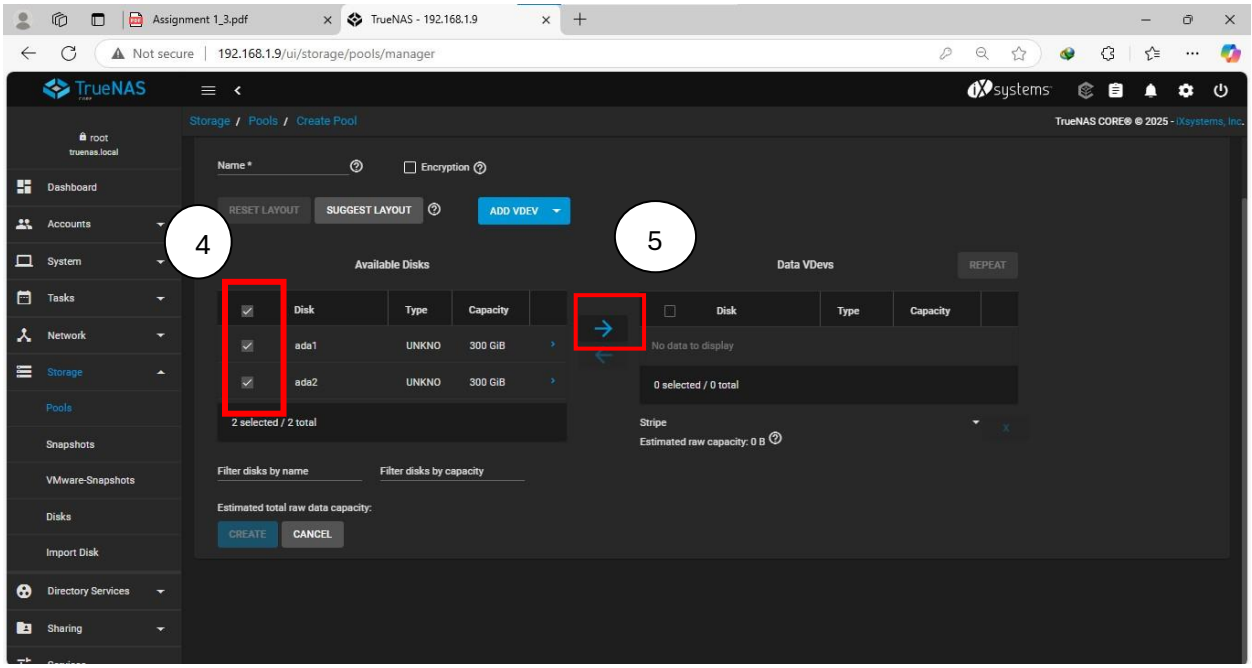


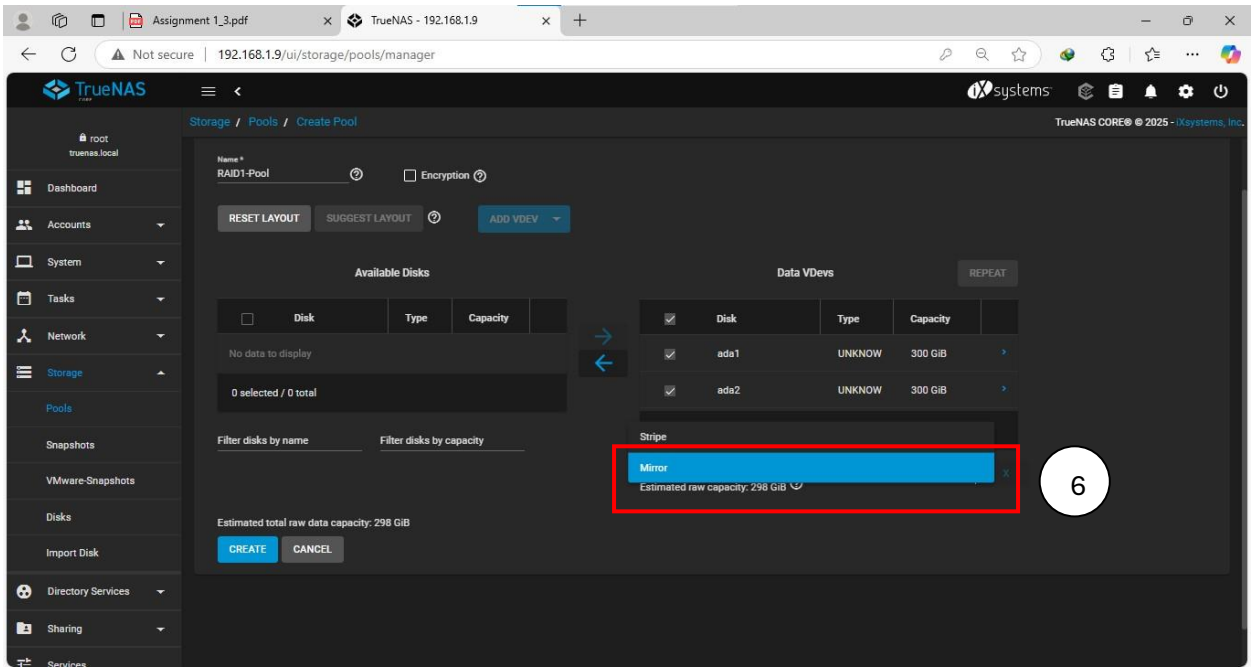


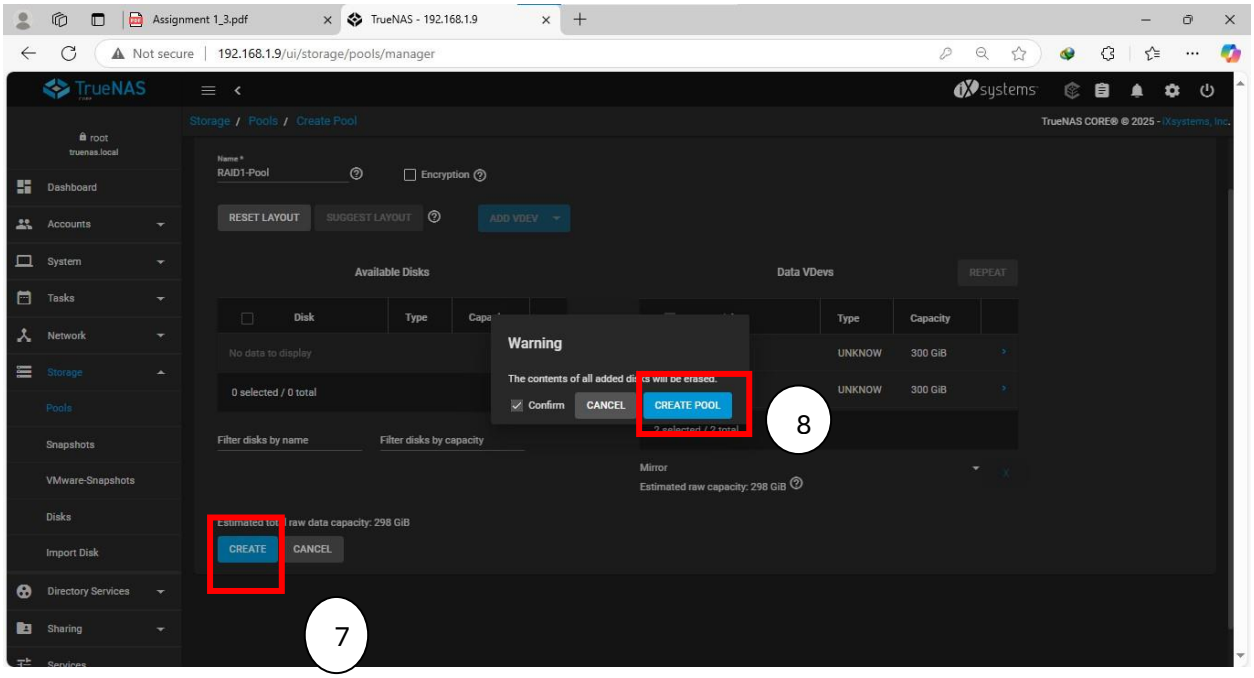
Create a storage pool

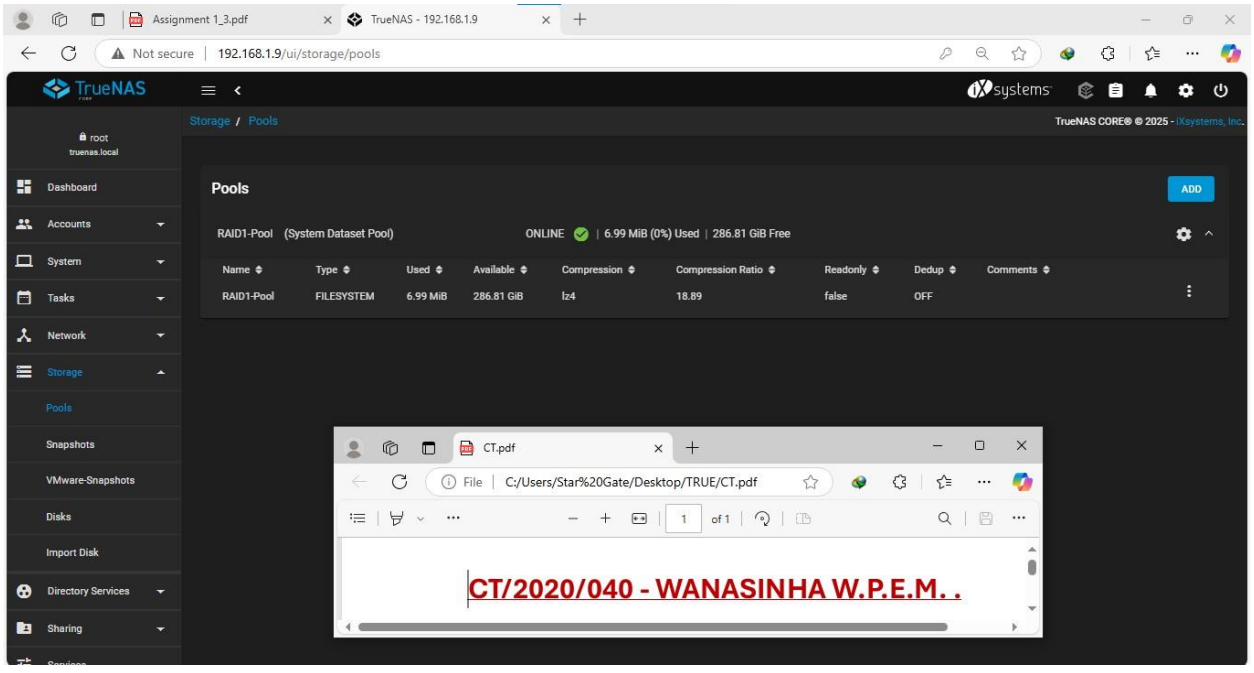





Assignment 1_3.pdf
TrueNAS - 192.168.1.9
Not secure
192.168.1.9/ui/storage/pools/manager
TrueNAS
Storage / Pools / Create Pool
TrueNAS CORE® © 2025 - iXsystems, Inc.
root
truenas.local
Dashboard
Accounts
System
Tasks
Network
Storage
Pools
Snapshots
VMware-Snapshots
Disks
Import Disk
Directory Services
Sharing
Name *
Encryption
RESET LAYOUT
SUGGEST LAYOUT
ADD VDEV
4
5
Available Disks
Data VDevs
REPEAT
Disk
Type
Capacity
ada1
UNKNO
300 GiB
ada2
UNKNO
300 GiB
2 selected / 2 total
No data to display
0 selected / 0 total
Stripe
Estimated raw capacity: 0 B
Filter disks by name
Filter disks by capacity
Estimated total raw data capacity:
CREATE
CANCEL

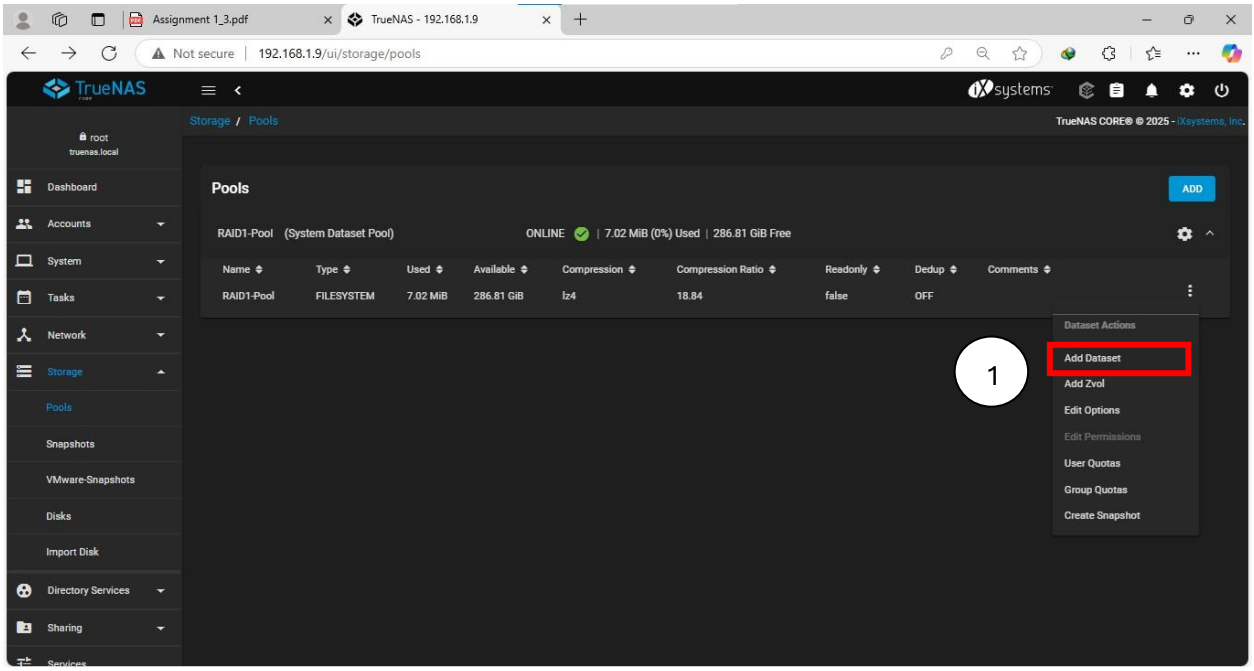

Assignment 1_3.pdf
TrueNAS - 192.168.1.9
Not secure
192.168.1.9/ui/storage/pools/manager
TrueNAS
Storage / Pools / Create Pool
TrueNAS CORE® © 2025 - iXsystems, Inc.
root
truenas.local
Dashboard
Accounts
System
Tasks
Network
Storage
Pools
Snapshots
VMware-Snapshots
Disks
Import Disk
Directory Services
Sharing
Name *
RAID1-Pool
Encryption
RESET LAYOUT
SUGGEST LAYOUT
ADD VDEV
Available Disks
Data VDevs
REPEAT
Disk
Type
Capacity
No data to display
0 selected / 0 total
ada1
UNKNOW
300 GiB
ada2
UNKNOW
300 GiB
Stripe
Mirror
Estimated raw capacity: 298 GiB
6
Filter disks by name
Filter disks by capacity
Estimated total raw data capacity: 298 GiB
CREATE
CANCEL

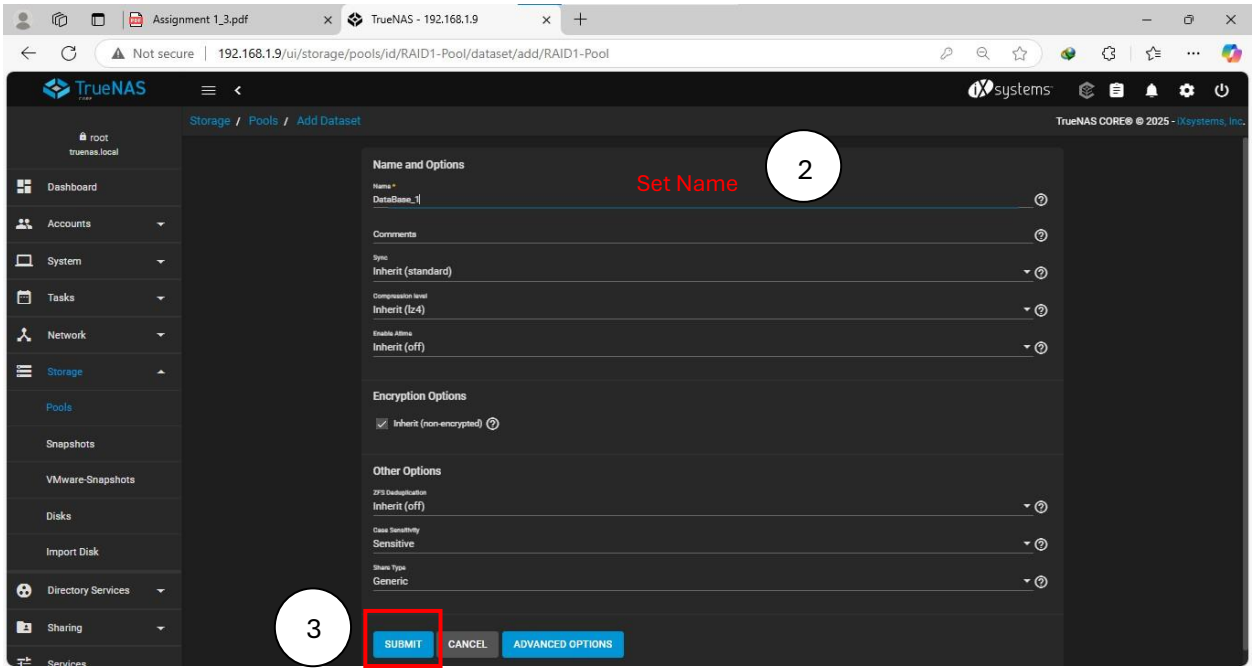

Assignment 1_3.pdf
TrueNAS - 192.168.1.9
Not secure | 192.168.1.9/ui/storage/pools/manager
TrueNAS
Storage / Pools / Create Pool
TrueNAS CORE® © 2025 - iXsystems, Inc.
root
truenas.local
Dashboard
Accounts
System
Tasks
Network
Storage
Pools
Snapshots
VMware-Snapshots
Disks
Import Disk
Directory Services
Sharing
Name *
RAID1-Pool
Encryption
RESET LAYOUT
SUGGEST LAYOUT
ADD VDEV
Available Disks
Data VDevs
REPEAT
Disk
Type
Capacity
No data to display
0 selected / 0 total
UNKNOW
300 GiB
Warning
The contents of all added disks will be erased.
Confirm
CANCEL
CREATE POOL
8
Filter disks by name
Filter disks by capacity
Mirror
Estimated raw capacity: 298 GiB
raw data capacity: 298 GiB
CREATE
CANCEL
7

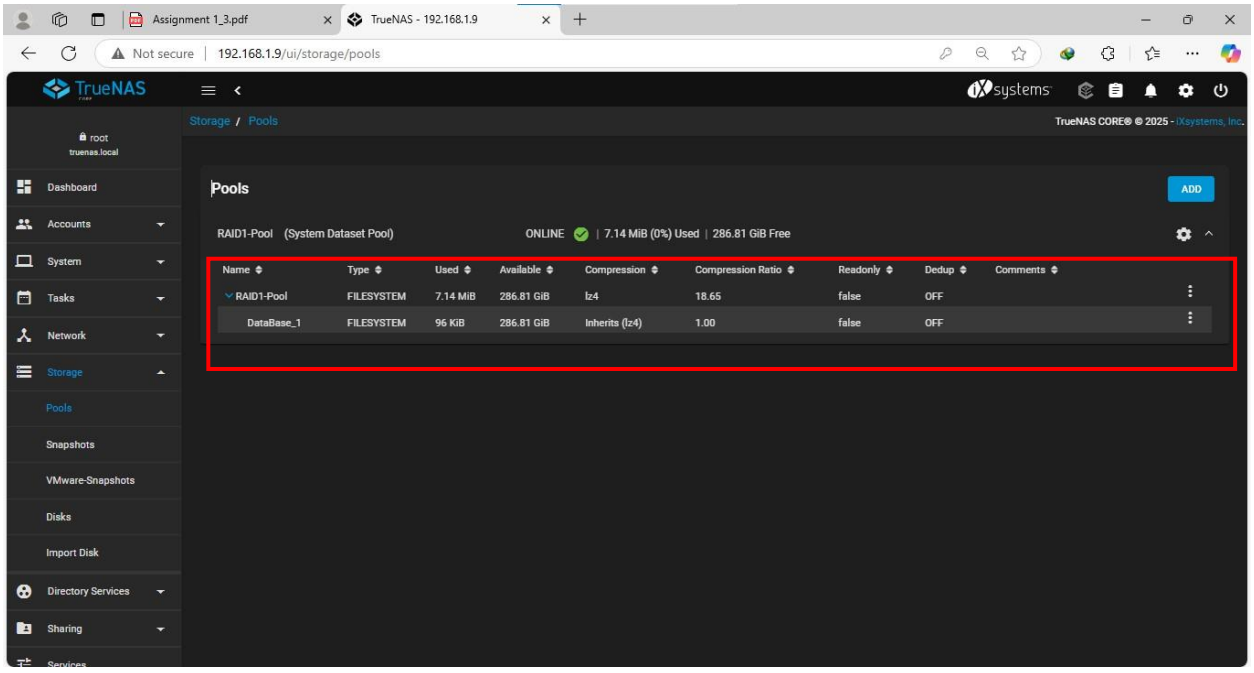

Assignment 1_3.pdf
TrueNAS - 192.168.1.9
Not secure | 192.168.1.9/ui/storage/pools
TrueNAS
Storage / Pools
TrueNAS CORE® © 2025 - iXsystems, Inc.
root
truenas.local
Dashboard
Accounts
System
Tasks
Network
Storage
Pools
Snapshots
VMware-Snapshots
Disks
Import Disk
Directory Services
Sharing
Pools
ADD
RAID1-Pool (System Dataset Pool)
ONLINE | 6.99 MiB (0%) Used | 286.81 GiB Free
Name
Type
Used
Available
Compression
Compression Ratio
Readonly
Dedup
Comments
RAID1-Pool
FILESYSTEM
6.99 MiB
286.81 GiB
lz4
18.89
false
OFF
CT.pdf
File | C:/Users/Star%20Gate/Desktop/TRUE/CT.pdf
1
of 1
CT/2020/040 - WANASINHA W.P.E.M. .

Create a Dataset After Creating a Pool

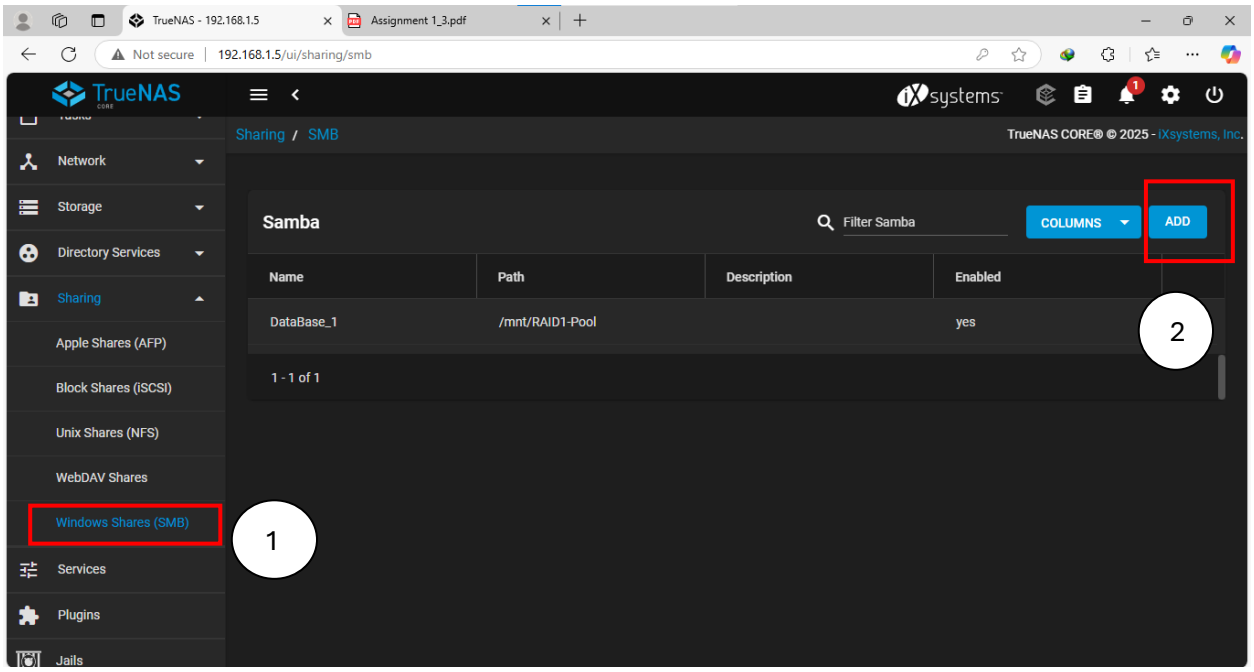
Creating a dataset is not required, but it is highly recommended for better management.

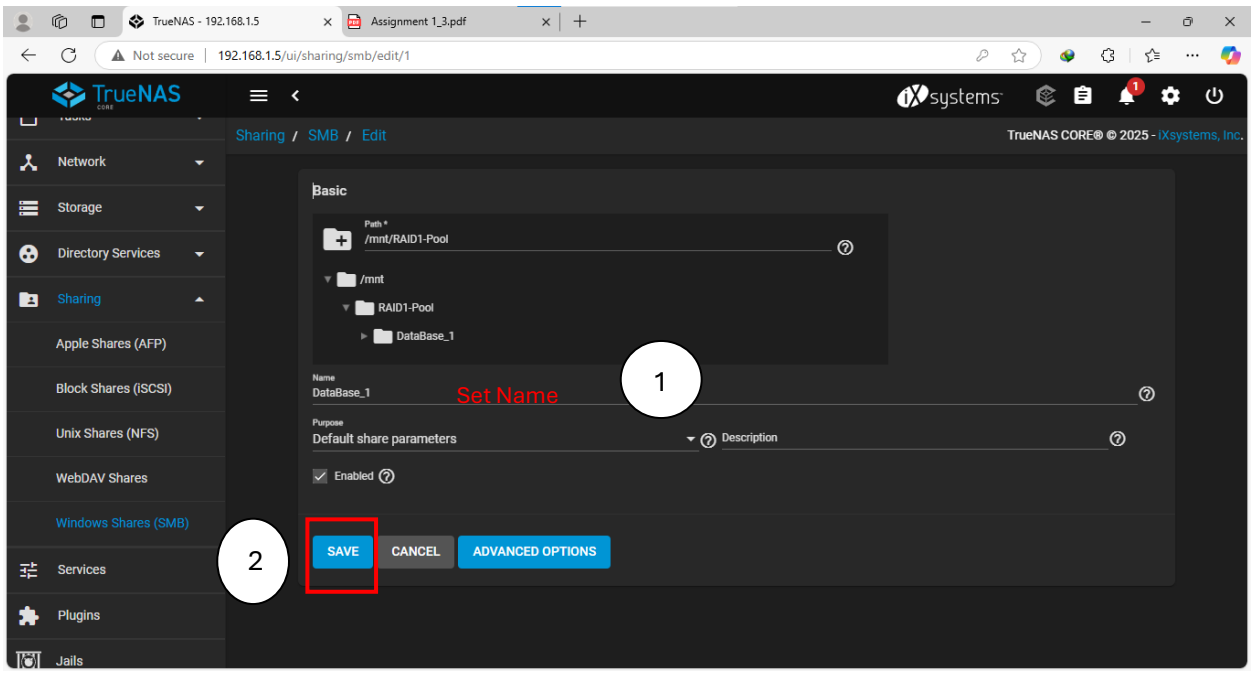




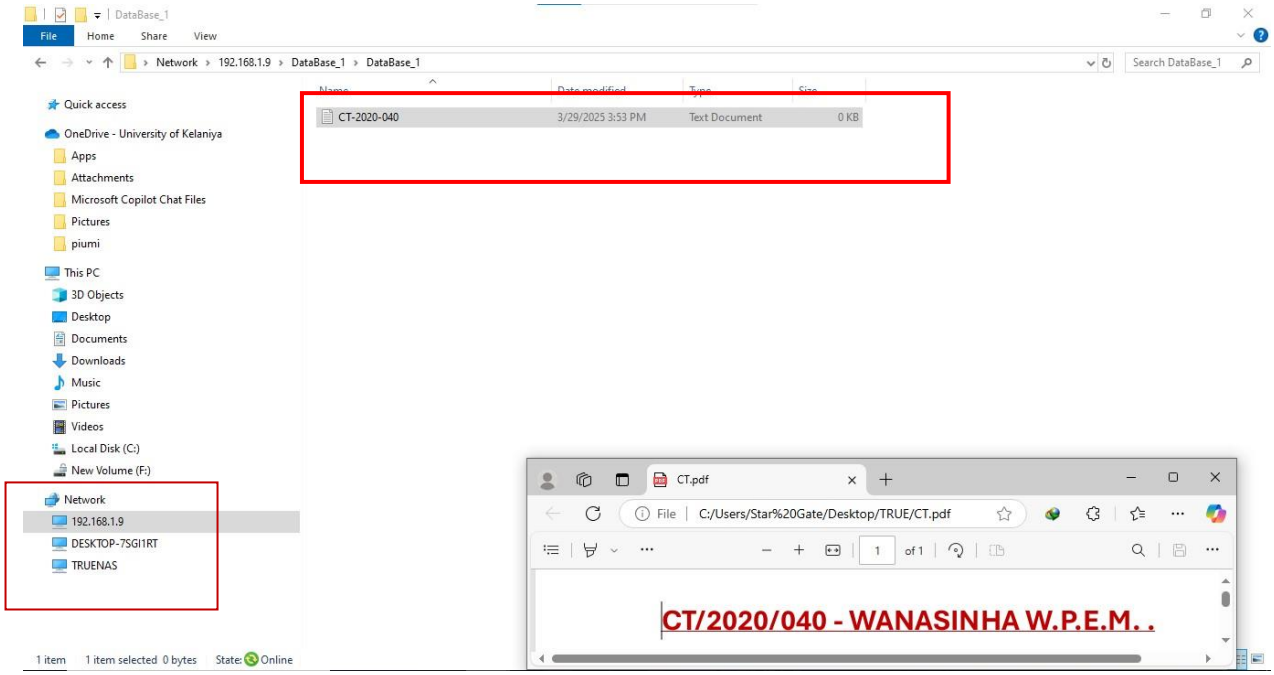

Assignment 1_3.pdf
TrueNAS - 192.168.1.9
Not secure | 192.168.1.9/ui/storage/pools
TrueNAS
root
truenas.local
Dashboard
Accounts
System
Tasks
Network
Storage
Pools
Snapshots
VMware-Snapshots
Disks
Import Disk
Directory Services
Sharing
Services
Storage / Pools
TrueNAS CORE® © 2025 - iXsystems, Inc.
Pools
ADD
RAID1-Pool (System Dataset Pool)
ONLINE | 7.14 MiB (0%) Used | 286.81 GiB Free
Name Type Used Available Compression Compression Ratio Readonly Dedup Comments
RAID1-Pool FILESYSTEM 7.14 MiB 286.81 GiB lz4 18.65 false OFF
DataBase_1 FILESYSTEM 96 KiB 286.81 GiB Inherits (lz4) 1.00 false OFF

Create a Windows file share.

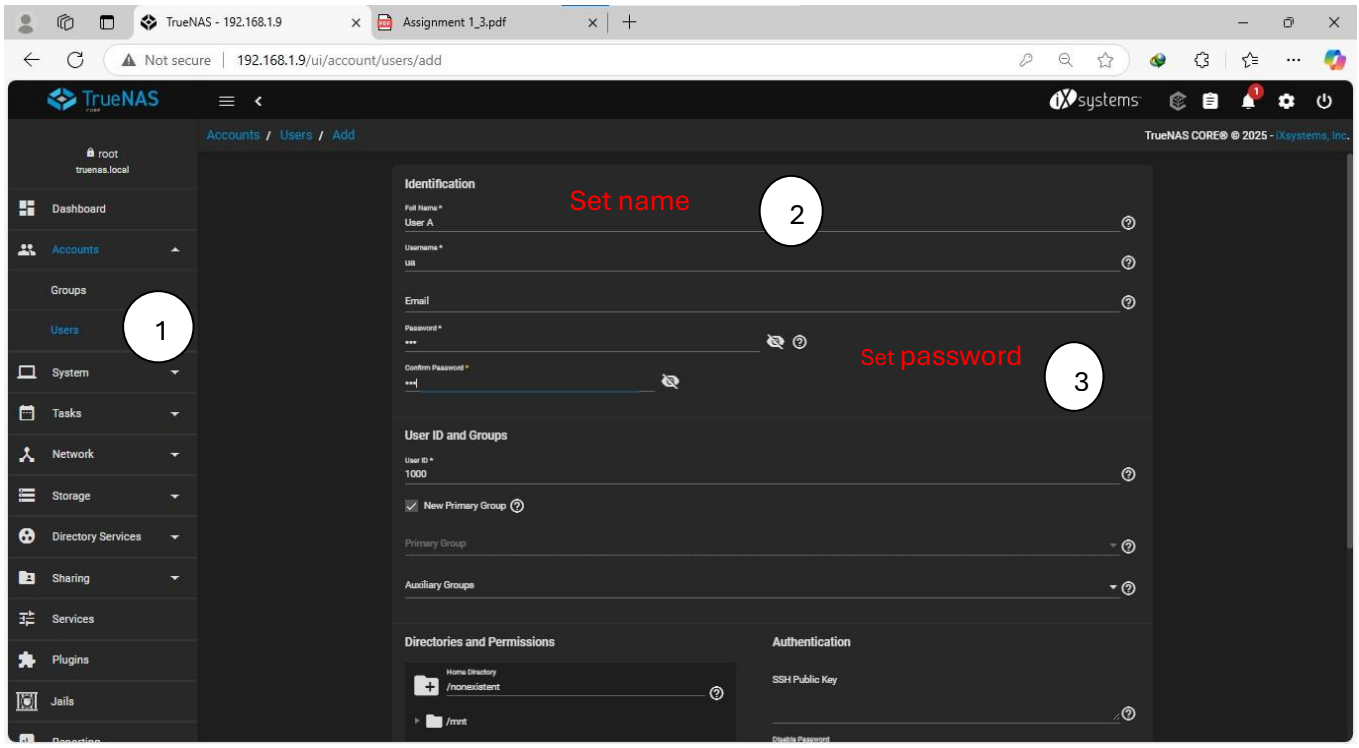


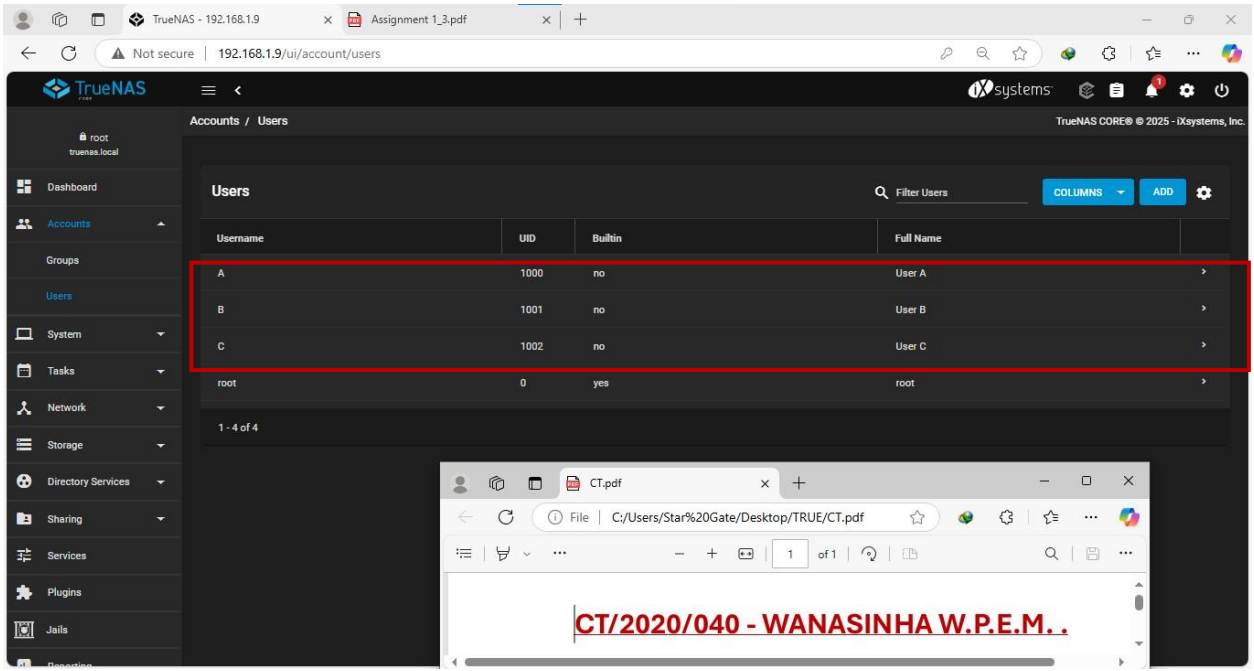


Upload a text file containing your index number to the file share.

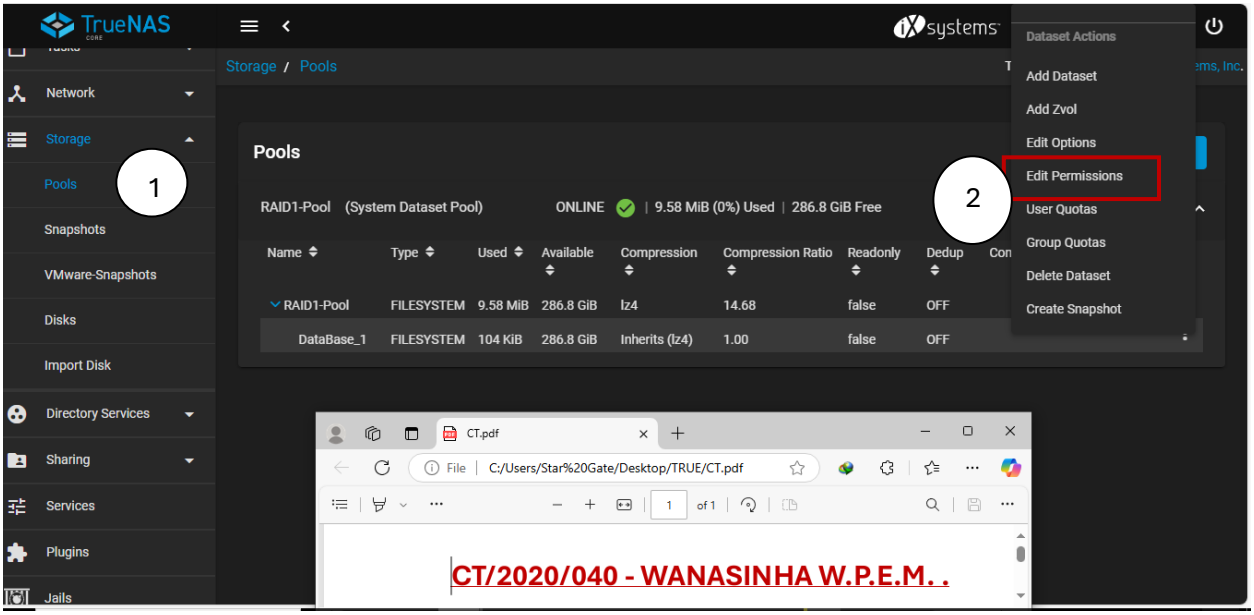


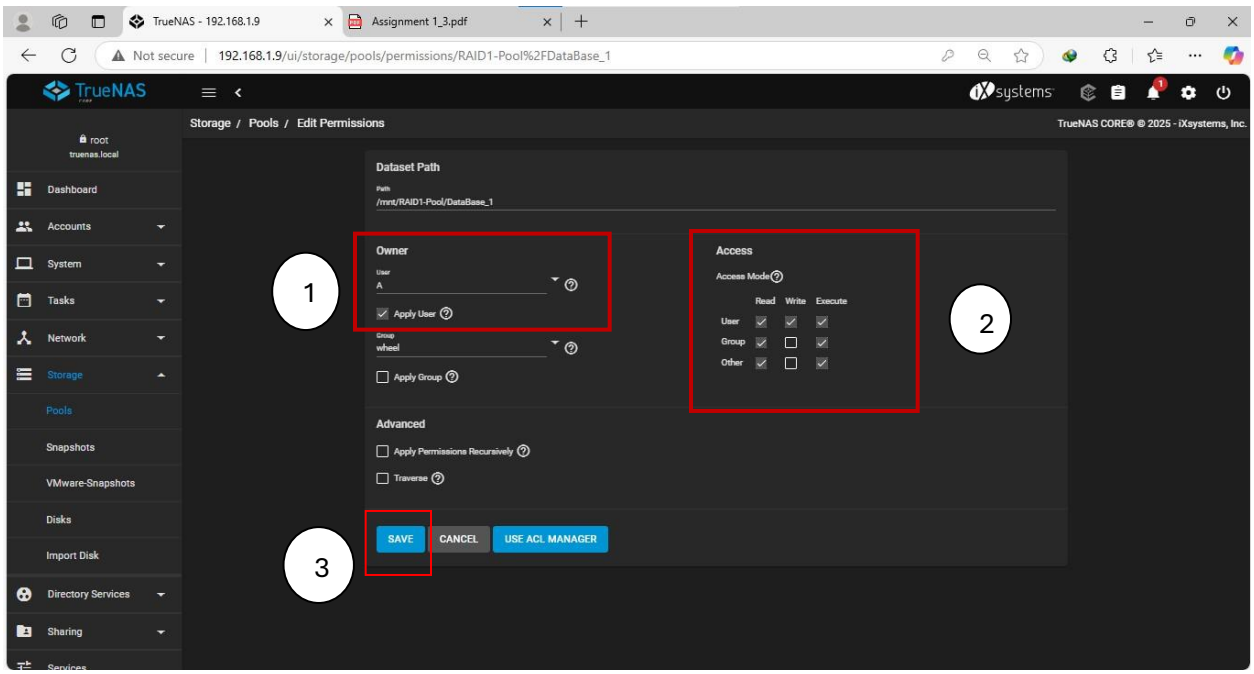
Create the users





Permissions and Access Control



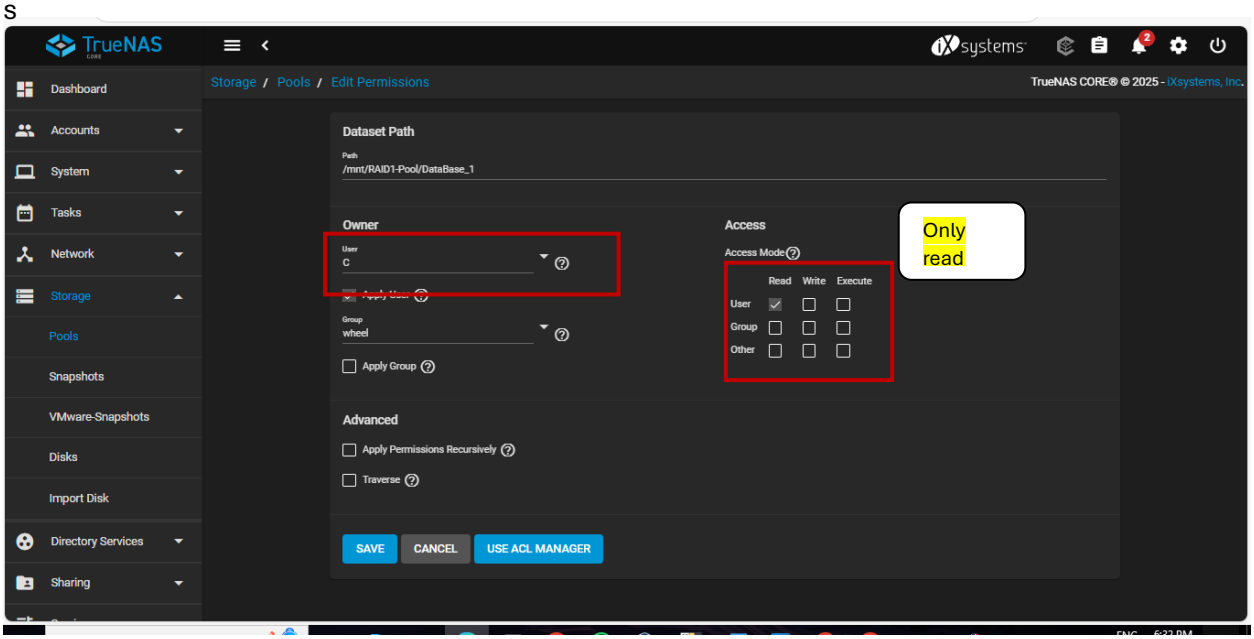


Grant read-only accesses to User C for the shared folder.

Basic UNIX Permissions

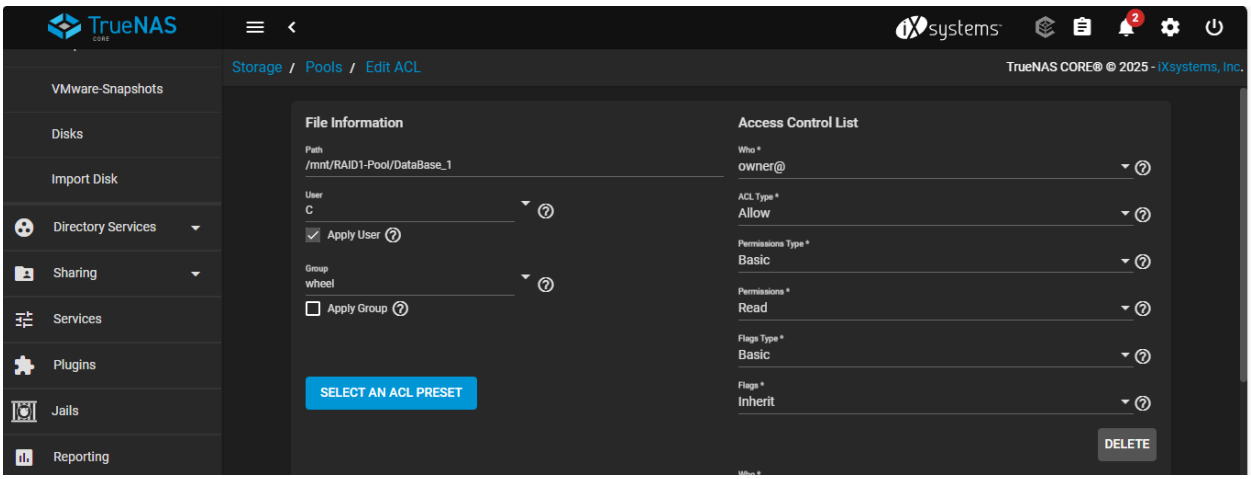
Uses **traditional UNIX-style permissions** (Owner, Group, Other) with **Read, Write, and Execute** checkboxes.

S

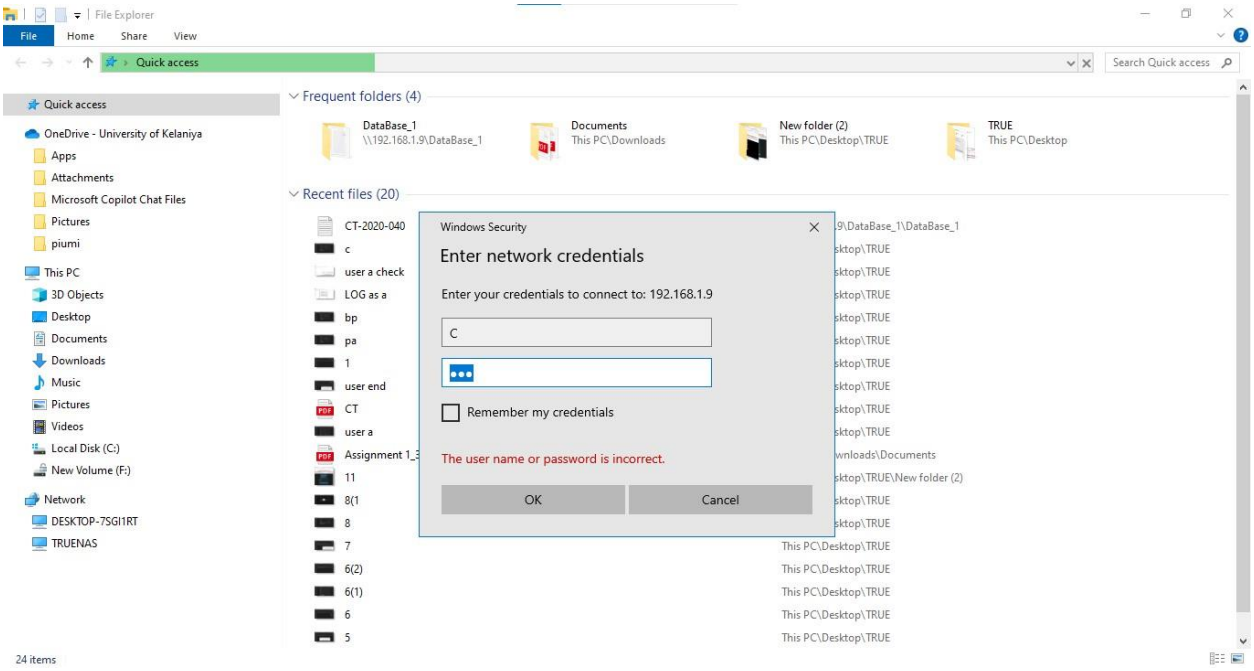


ACL (Access Control List) Management

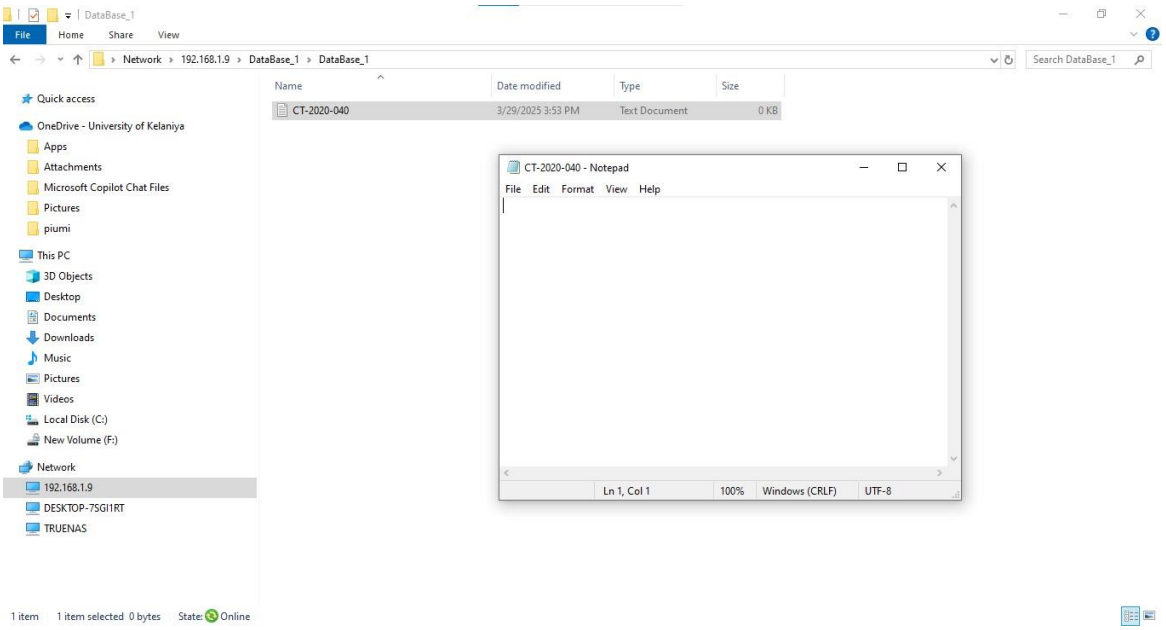
More **flexible** and recommended for complex permission structures, especially for **Windows SMB shares**.



LOG AS C

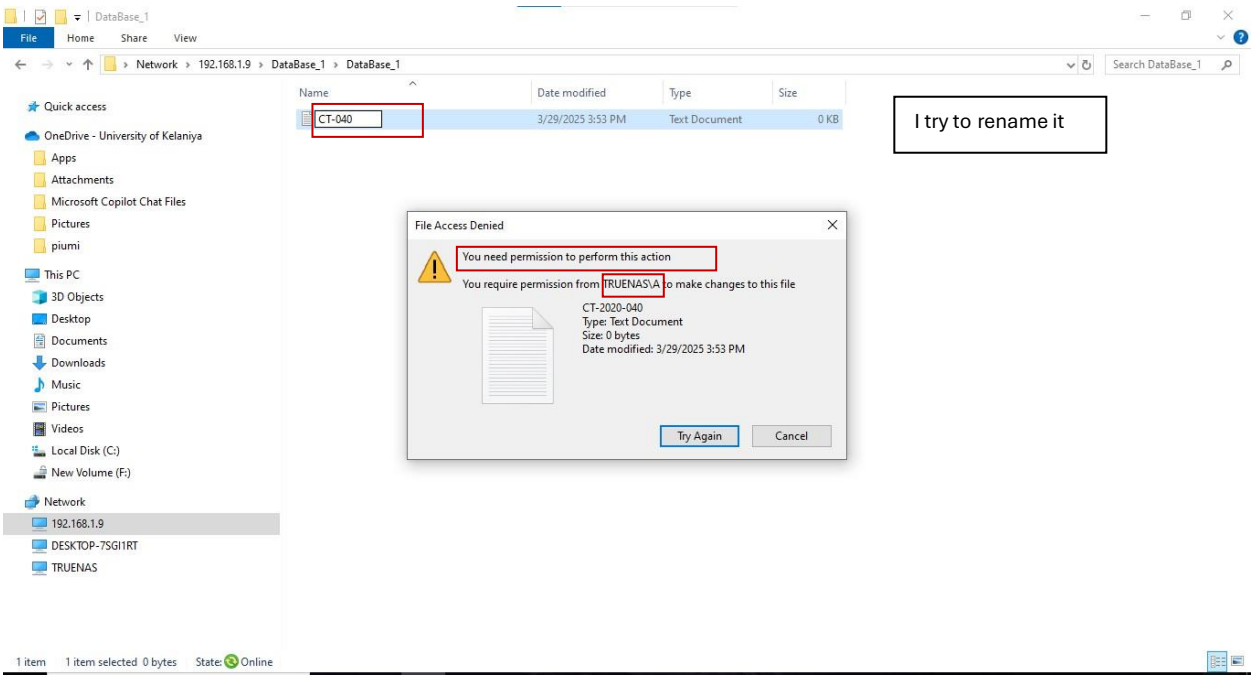


Open the text file.



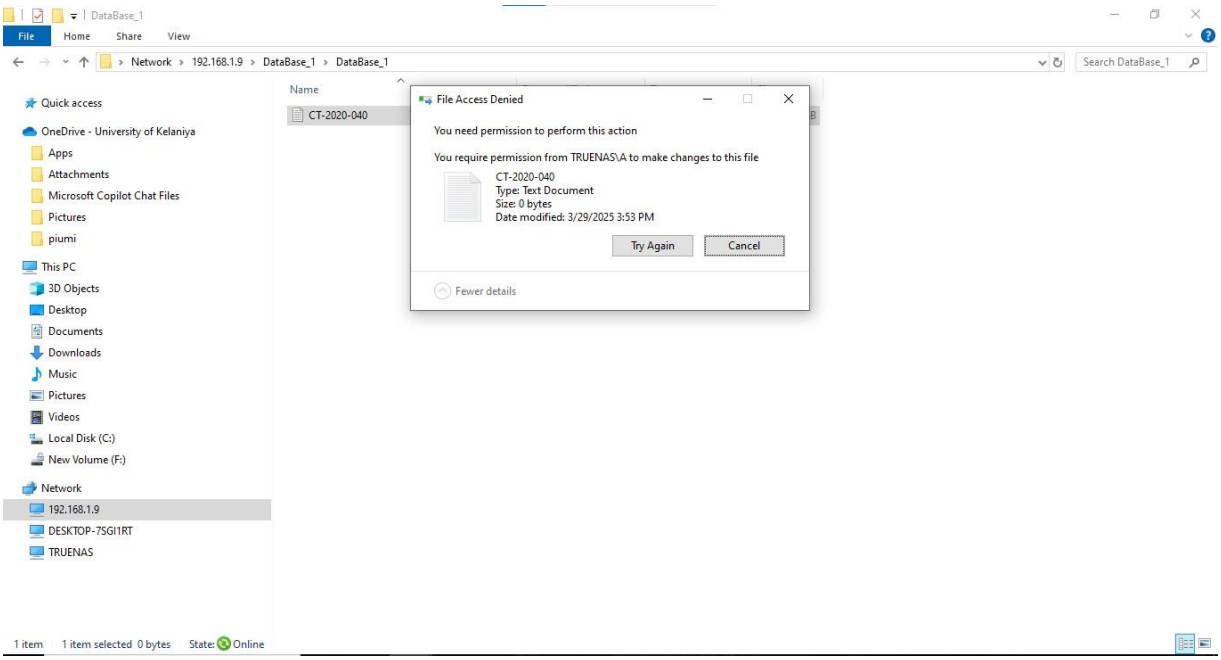
It opens without any errors

Modify the text file.



It cannot be modified.

Delete the text file.



It cannot be Delete