Quick Guide – MOBOTIX NAS & IoT Cameras

Setting up MOBOTIX NAS/MxManagementCenter Using **IoT** Cameras

MOBOTIX NAS

2-Bay/8 Channels

MOBOTIX NAS

4-Bay/16 Channels

MOBOTIX NAS

8-Bay/32 Channels

BeyondHumanVision

MOBOTIX

Overview

Setting up MOBOTIX NAS & IoT Cameras

- ① Device Finder
  - Download and install Device Finder (www.mobotix.com)
  - Start Device Finder
  - Identify device
  - Update firmware (if required)
  - Configure Basic Settings
- ② NAS Web Interface
  - Configure storage
  - Create share
- ③ MxManagementCenter
  - Download and install MxManagementCenter (www.mobotix.com)
  - Start MxMangementCenter
  - Add MOBOTIX IoT cameras
  - Assign recording paths
  - Configure camera recording
  - Configure camera arming
  - Assign cameras to recording paths

Quick Guide – MOBOTIX
NAS & Device Finder
www.mobotix.com

MxManagementCenter
Tutorial
www.mobotix.com

General Information (1)

This document is valid for the following MOBOTIX NAS models

Product Name	Item Number	Product Label
MOBOTIX NAS 2-Bay/8 Channels	Mx-S-NAS2a-8	251-G
MOBOTIX NAS 4-Bay/16 Channels	Mx-S-NAS4A-16	451-G
MOBOTIX NAS 8-Bay/32 Channels	Mx-S-NAS8A-32	873U-G

Minimum requirements for software versions

- MOBOTIX NAS: Mx-NAS2-4A-4.3.4.0807, Mx-NAS8A-4.3.4.0807, ContainerStation 1.8.3.207, QVRProServer 1.2.1.0 (see MOBOTIX NAS Quick Install)
- MOBOTIX IoT Cameras: 5.2.x (Mx6), 4.7.x (Mx3)
- MxManagementCenter: 2.0.1+

IMPORTANT: We recommend updating all system components to the latest software releases. Please download the latest releases of MxMC, MOBOTIX NAS, and MOBOTIX IoT cameras from the MOBOTIX website www.mobotix.com:

- Support > Download Center > Software Downloads

General Information (2)

Video Tutorials are available from the MOBOTIX website www.mobotix.com:

- Support > Download Center > Documentation > Video Tutorials

The **MOBOTIX NAS HDD Compatibility List** is available from the MOBOTIX website www.mobotix.com:

- Support > Download Center > Documentation > White Lists

A Note on Licensing

- MxManagementCenter can show MOBOTIX IoT and MOVE cameras "as is", i.e., without any further licensing. For bandwidth-optimized usage and professional applications, it is highly recommended to use **MxPEG**.
- Using the **Advanced Configuration** feature of MxManagementCenter requires a license. This is recommended for quick and easy setup of a video surveillance system.

For more information on licensing models, please read the **MxMC 2.0 Tutorial** from the MOBOTIX website www.mobotix.com:

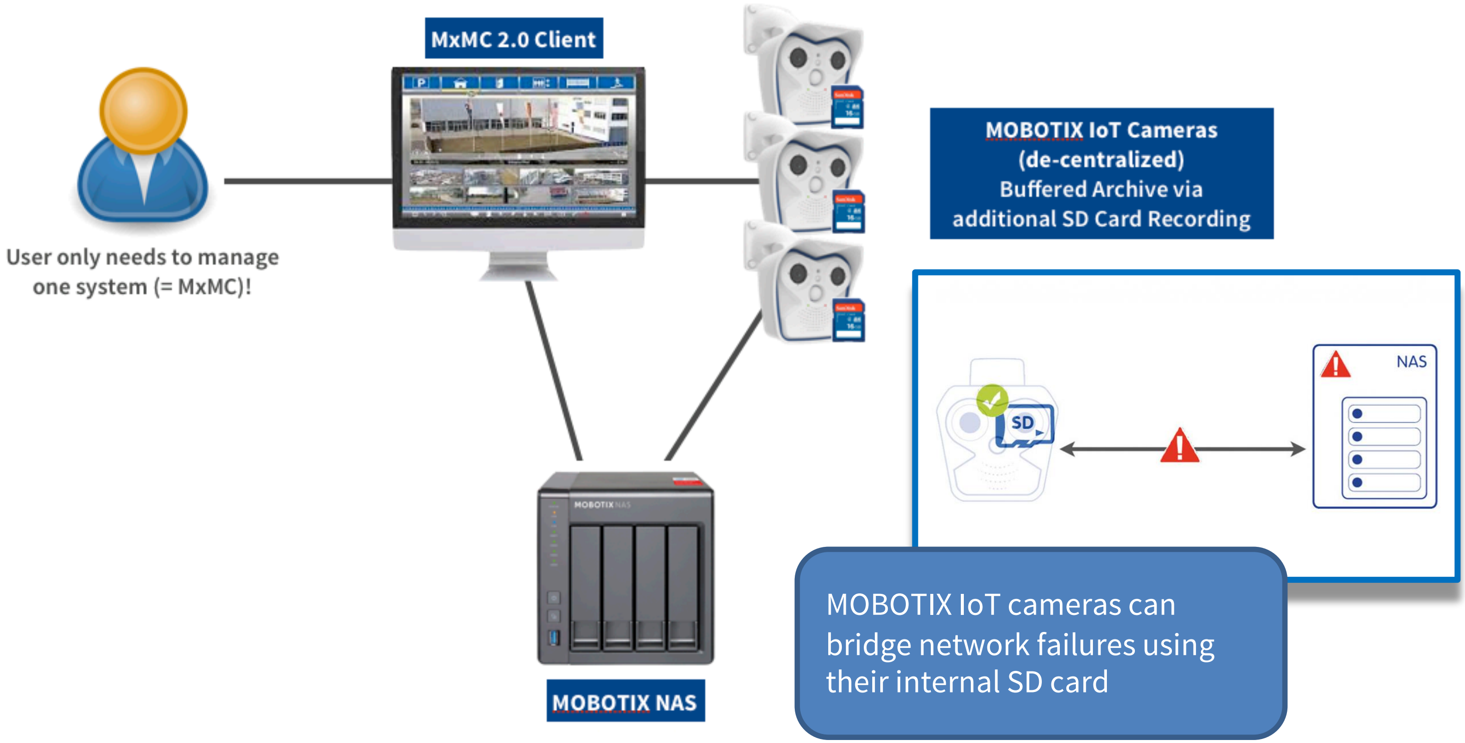
- Support > Download Center > Documentation > Brochures & Guides > Tutorials

A Note on Password Security

- The **default user** of the NAS is "**admin**" and the **password** is "**admin**".
- **NEVER use the default access privileges!** Always make sure that you have changed the default passwords to strong passwords (numbers, lower/upper case letters, special characters)!
- **One-Click Convenience:** Use the **Secure System** wizard of MxManagementCenter.

Motivation

The objective of this document is to set up a MOBOTIX NAS as a **storage device** for **MOBOTIX IoT cameras**. In this scenario, the cameras will be using the NAS as **network share**. The **QVR Pro** recording software is not required for recording MOBOTIX IoT cameras on the NAS. For most efficient configuration of camera settings, use the **Advanced Configuration** feature of MxManagementCenter.



MxMC 2.0 Client

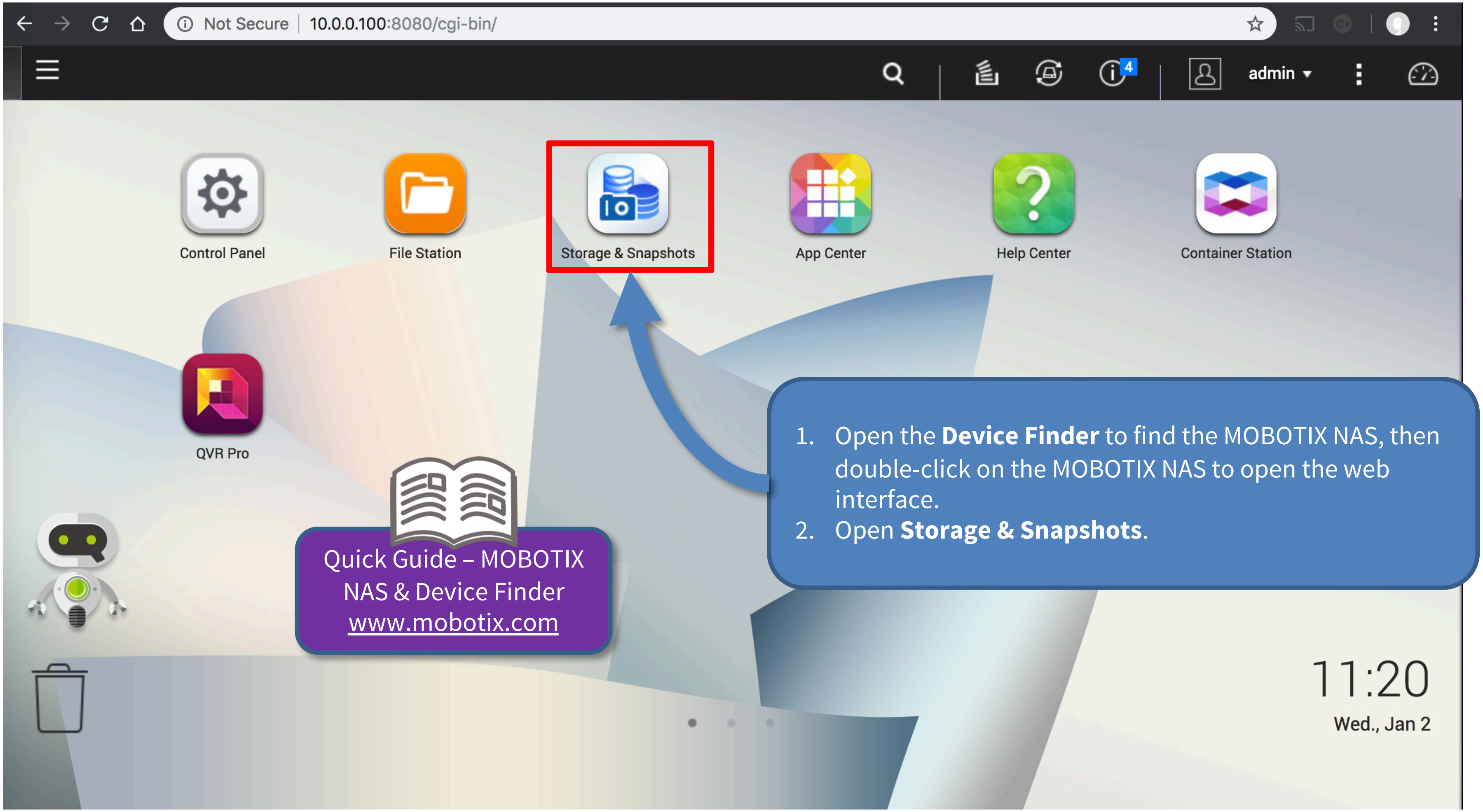
User only needs to manage one system (= MxMC)!

MOBOTIX IoT Cameras (de-centralized)
Buffered Archive via additional SD Card Recording

MOBOTIX NAS

MOBOTIX IoT cameras can bridge network failures using their internal SD card

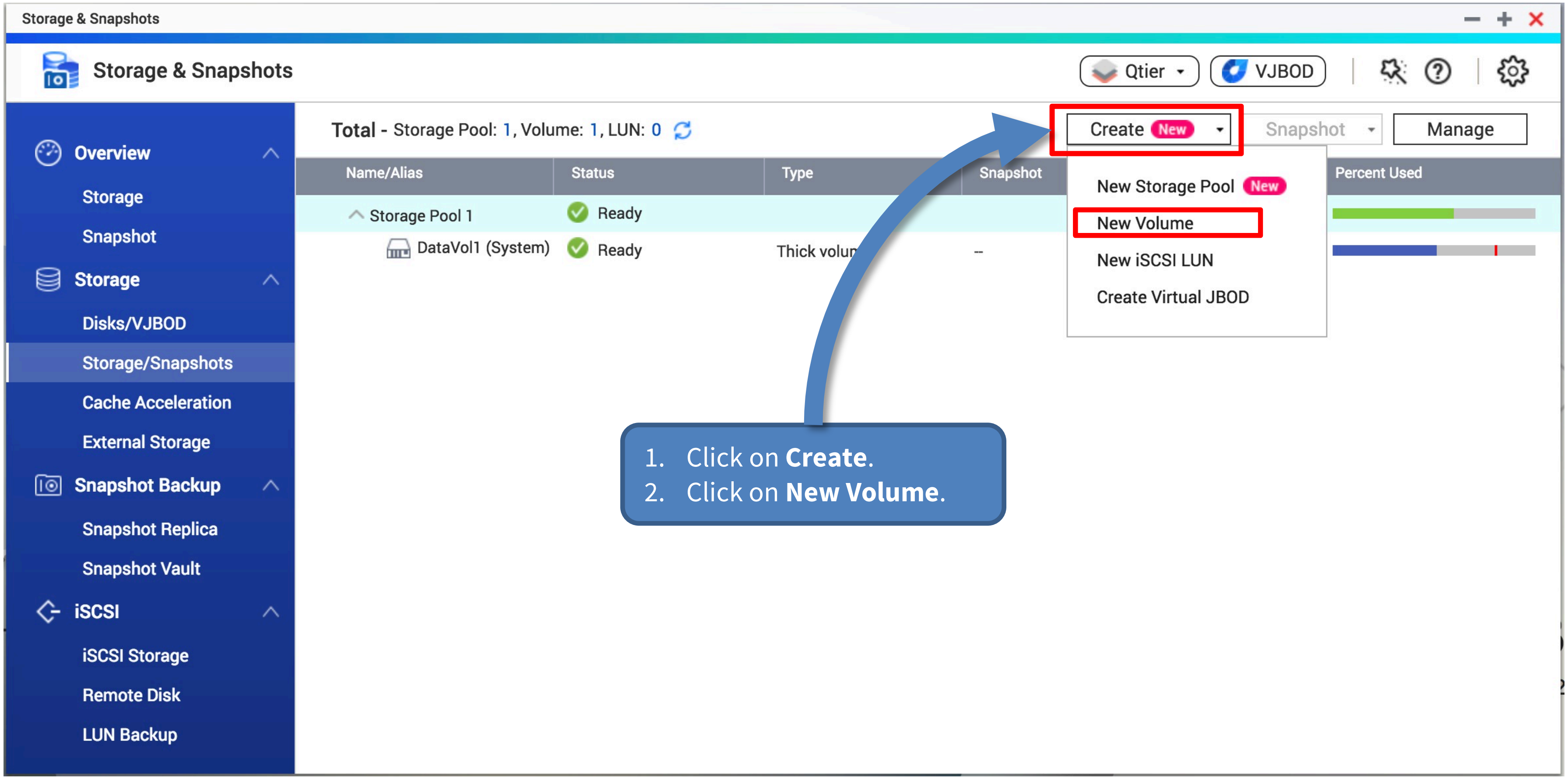
Step 1 – Configure Volume (1)


Not Secure
10.0.0.100:8080/cgi-bin/
admin
Control Panel
File Station
Storage & Snapshots
App Center
Help Center
Container Station
QVR Pro
11:20
Wed., Jan 2

Quick Guide – MOBOTIX NAS & Device Finder
www.mobotix.com

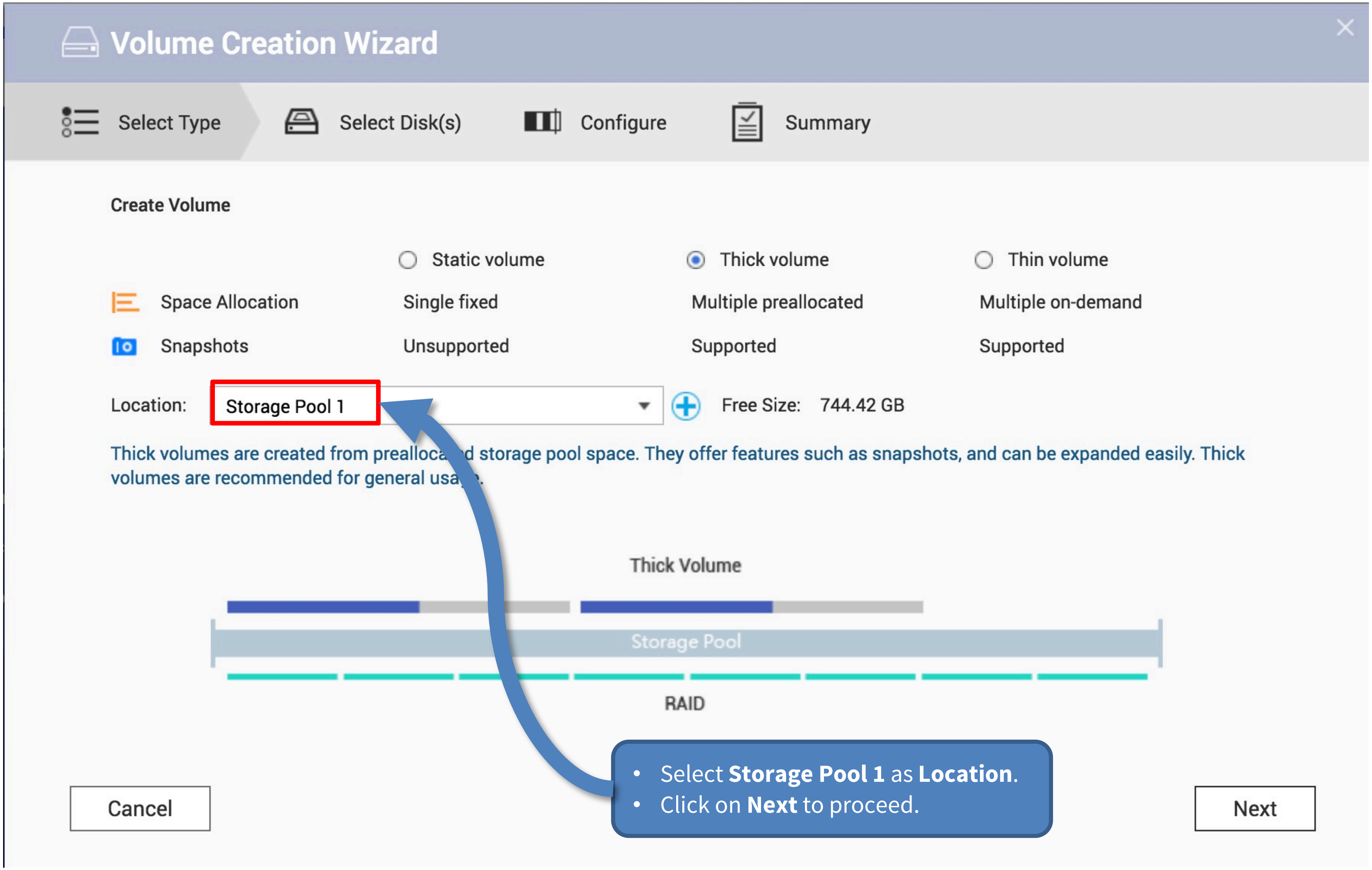
1. Open the **Device Finder** to find the MOBOTIX NAS, then double-click on the MOBOTIX NAS to open the web interface.
2. Open **Storage & Snapshots**.

Step 1 – Configure Volume (2)


Storage & Snapshots
Storage & Snapshots
Qtier
VJBOD
Total - Storage Pool: 1, Volume: 1, LUN: 0
Create New
Snapshot
Manage
Overview
Storage
Snapshot
Storage
Disks/VJBOD
Storage/Snapshots
Cache Acceleration
External Storage
Snapshot Backup
Snapshot Replica
Snapshot Vault
iSCSI
iSCSI Storage
Remote Disk
LUN Backup
Name/Alias
Status
Type
Snapshot
Percent Used
Storage Pool 1
Ready
DataVol1 (System)
Ready
Thick volun
--
New Storage Pool New
New Volume
New iSCSI LUN
Create Virtual JBOD

1. Click on **Create**.
2. Click on **New Volume**.

Step 1 – Configure Volume (3)



Volume Creation Wizard

Select Type
Select Disk(s)
Configure
Summary

Create Volume

	○ Static volume	● Thick volume	○ Thin volume
Space Allocation	Single fixed	Multiple preallocated	Multiple on-demand
Snapshots	Unsupported	Supported	Supported

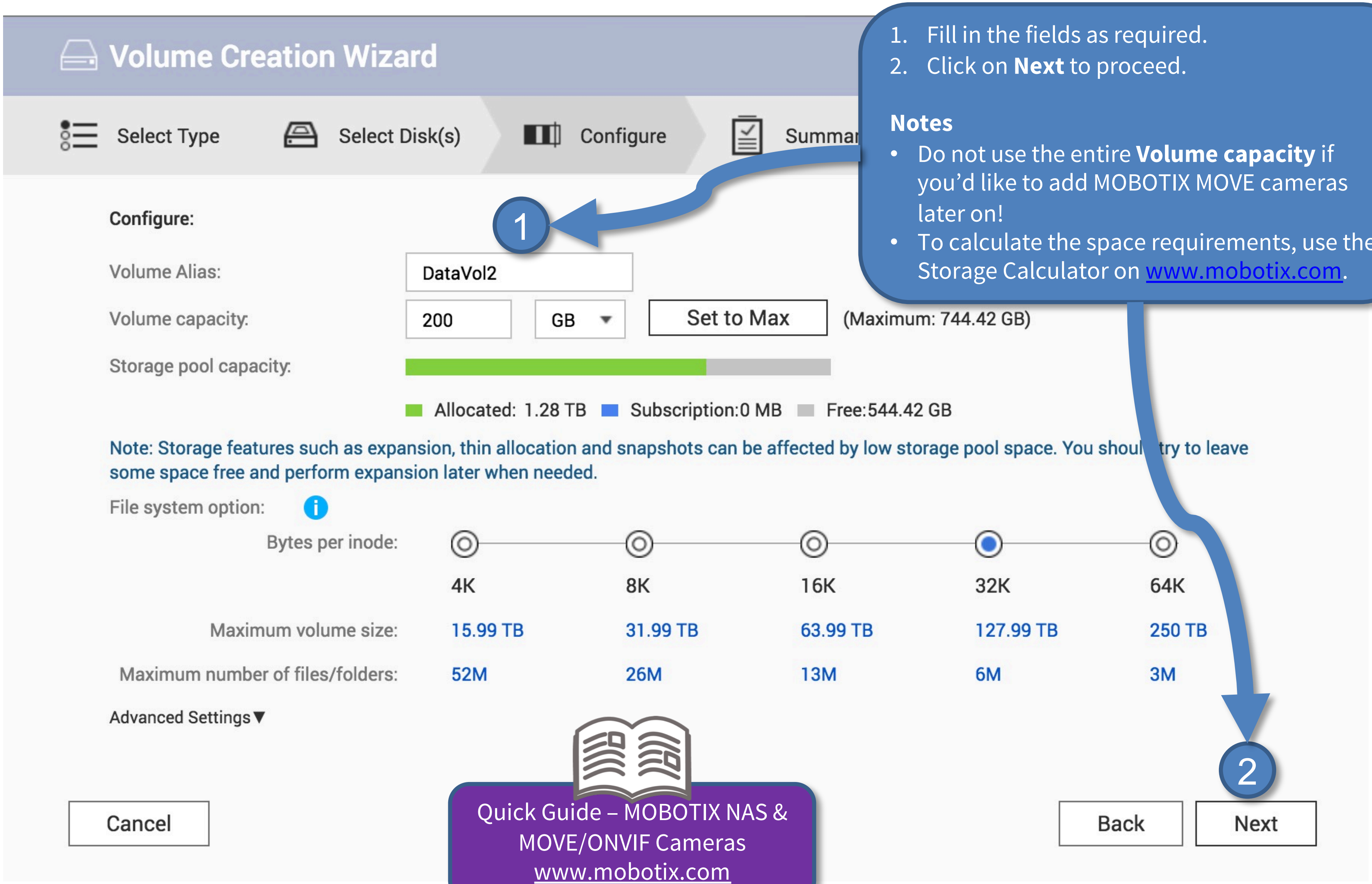
Location: Storage Pool 1 Free Size: 744.42 GB

Thick volumes are created from preallocated storage pool space. They offer features such as snapshots, and can be expanded easily. Thick volumes are recommended for general usage.

Thick Volume
Storage Pool
RAID
Cancel
Next

- Select **Storage Pool 1** as **Location**.
- Click on **Next** to proceed.

Step 1 – Configure Volume (4)



Configure:

Volume Alias: DataVol2

Volume capacity: 200 GB Set to Max (Maximum: 744.42 GB)

Storage pool capacity:

🟩 Allocated: 1.28 TB 🟦 Subscription:0 MB ▨ Free:544.42 GB

Note: Storage features such as expansion, thin allocation and snapshots can be affected by low storage pool space. You shoul try to leave some space free and perform expansion later when needed.

File system option:

Bytes per inode:	○ 4K	○ 8K	○ 16K	● 32K	○ 64K
Maximum volume size:	15.99 TB	31.99 TB	63.99 TB	127.99 TB	250 TB
Maximum number of files/folders:	52M	26M	13M	6M	3M

Advanced Settings ▼

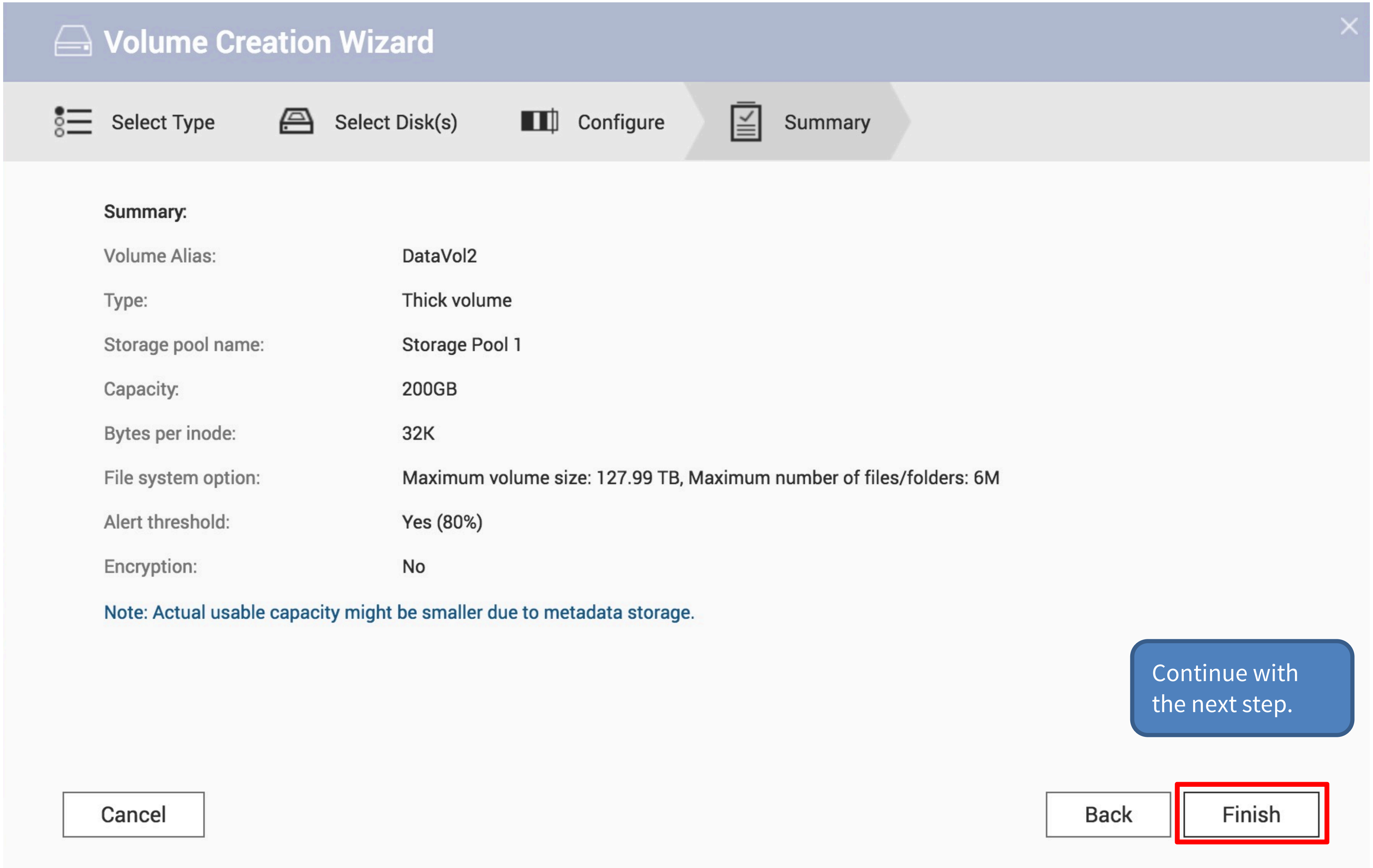
1. Fill in the fields as required.
2. Click on **Next** to proceed.

Notes

- Do not use the entire **Volume capacity** if you'd like to add MOBOTIX MOVE cameras later on!
- To calculate the space requirements, use the Storage Calculator on www.mobotix.com.

Quick Guide – MOBOTIX NAS & MOVE/ONVIF Cameras
www.mobotix.com

Step 1 – Configure Volume (5)


Volume Creation Wizard
Select Type
Select Disk(s)
Configure
Summary
Cancel
Back
Finish

Summary:

Volume Alias: DataVol2

Type: Thick volume

Storage pool name: Storage Pool 1

Capacity: 200GB

Bytes per inode: 32K

File system option: Maximum volume size: 127.99 TB, Maximum number of files/folders: 6M

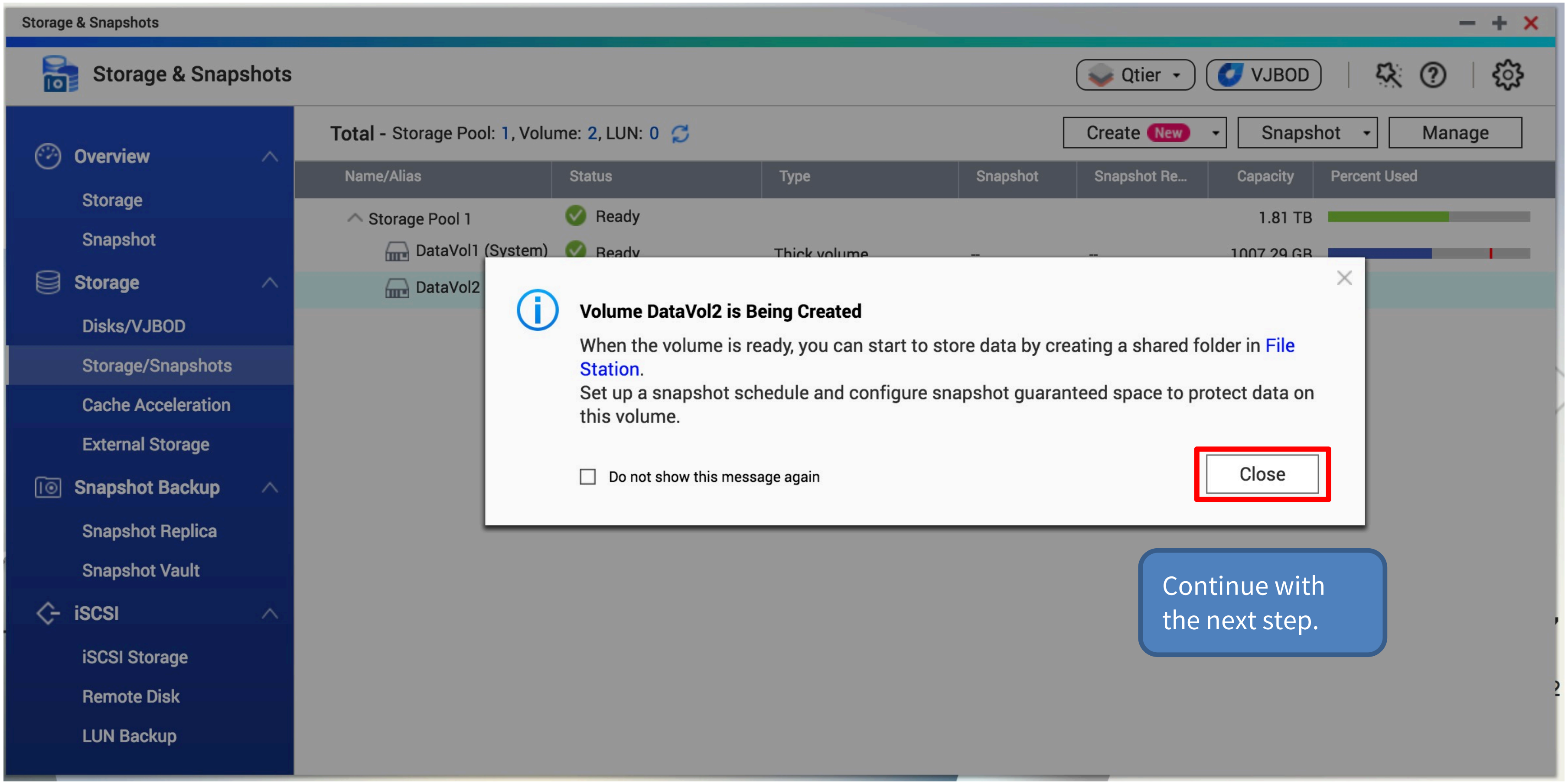
Alert threshold: Yes (80%)

Encryption: No

Note: Actual usable capacity might be smaller due to metadata storage.

Continue with the next step.

Step 1 – Configure Volume (6)


Storage & Snapshots
Storage & Snapshots
Qtier
VJBOD
Overview
Storage
Snapshot
Storage
Disks/VJBOD
Storage/Snapshots
Cache Acceleration
External Storage
Snapshot Backup
Snapshot Replica
Snapshot Vault
iSCSI
iSCSI Storage
Remote Disk
LUN Backup
Create New
Snapshot
Manage

Total - Storage Pool: 1, Volume: 2, LUN: 0

Name/Alias	Status	Type	Snapshot	Snapshot Re...	Capacity	Percent Used
Storage Pool 1	Ready				1.81 TB	
DataVol1 (System)	Ready	Thick volume	--	--	1007.29 GB	
DataVol2						

Volume DataVol2 is Being Created

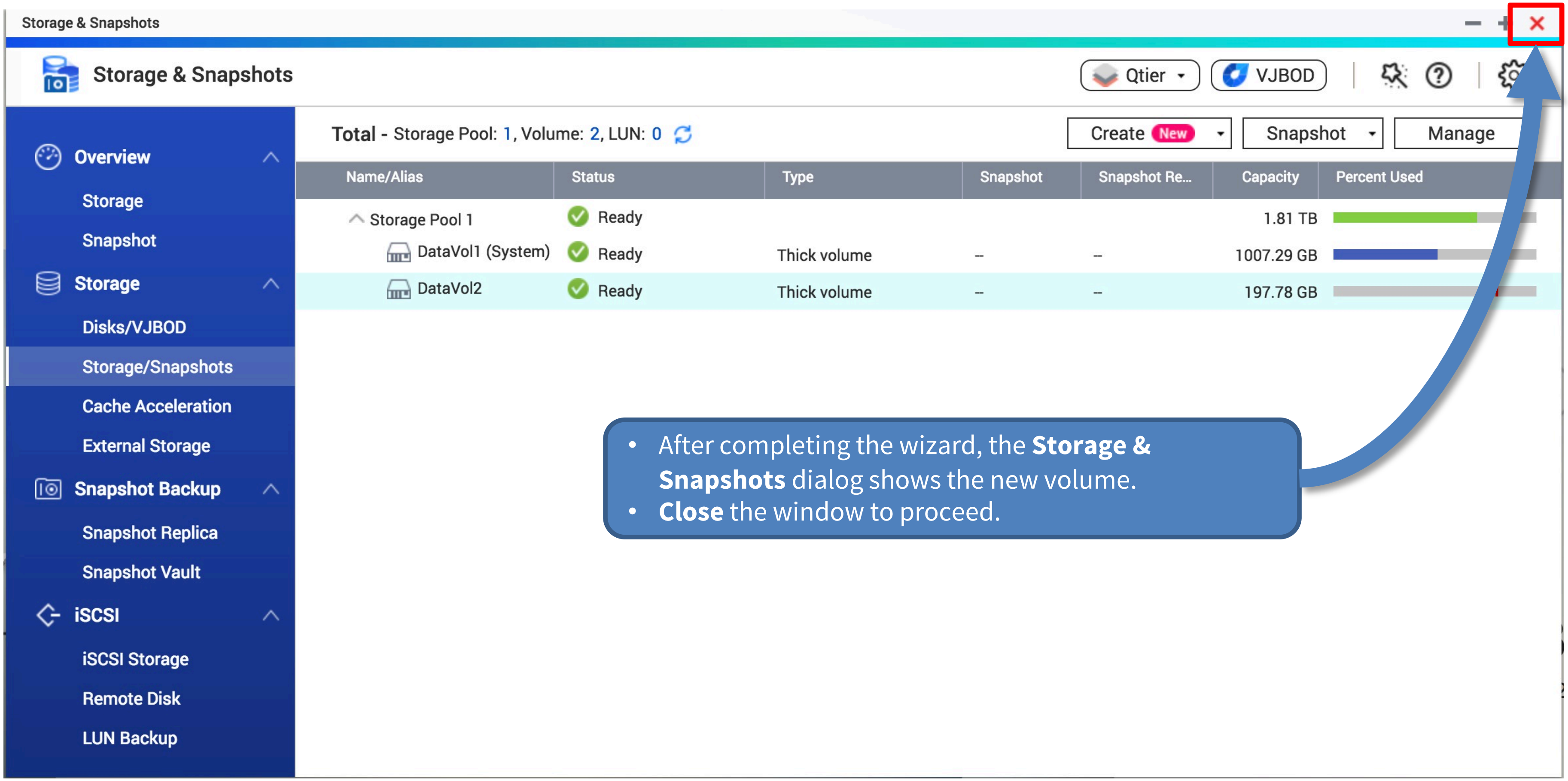
When the volume is ready, you can start to store data by creating a shared folder in File Station.
Set up a snapshot schedule and configure snapshot guaranteed space to protect data on this volume.

☐ Do not show this message again

Close

Continue with the next step.

Step 1 – Configure Volume (Completed)



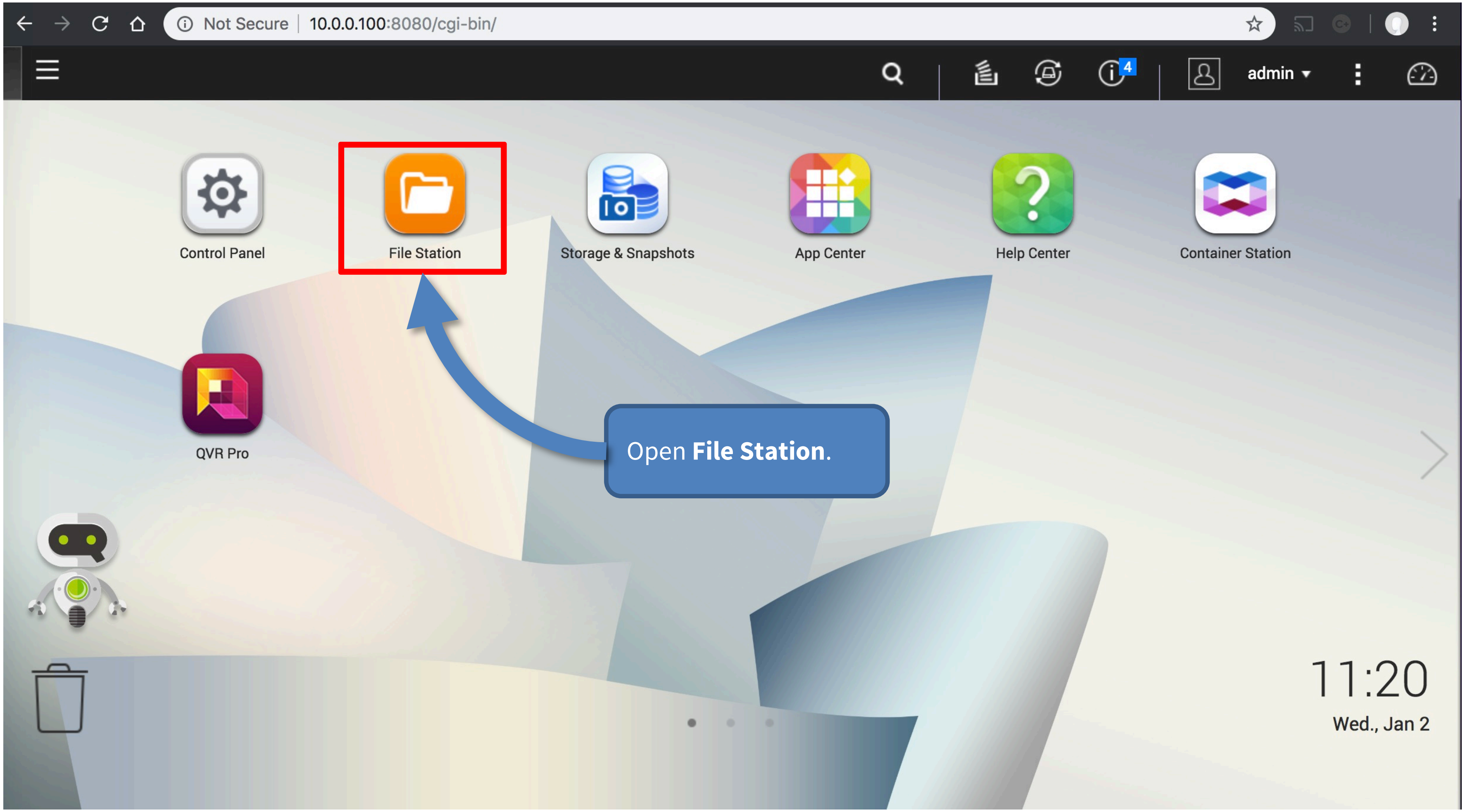
Storage & Snapshots
Storage & Snapshots
Qtier
VJBOD
Overview
Storage
Snapshot
Storage
Disks/VJBOD
Storage/Snapshots
Cache Acceleration
External Storage
Snapshot Backup
Snapshot Replica
Snapshot Vault
iSCSI
iSCSI Storage
Remote Disk
LUN Backup
Create New
Snapshot
Manage

Total - Storage Pool: 1, Volume: 2, LUN: 0

Name/Alias	Status	Type	Snapshot	Snapshot Re...	Capacity	Percent Used
Storage Pool 1	Ready				1.81 TB	
DataVol1 (System)	Ready	Thick volume	--	--	1007.29 GB	
DataVol2	Ready	Thick volume	--	--	197.78 GB	

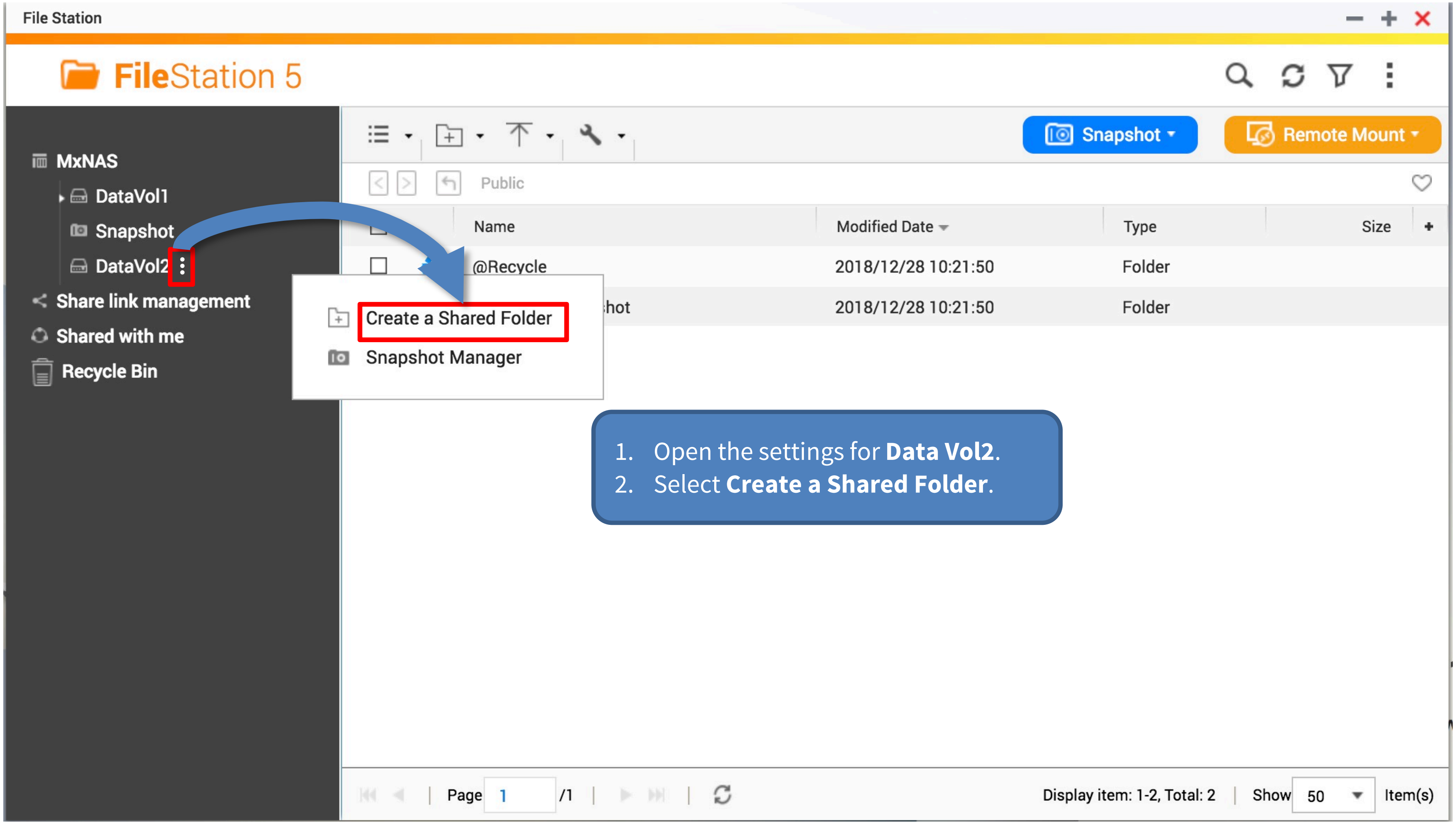
- After completing the wizard, the **Storage & Snapshots** dialog shows the new volume.
- **Close** the window to proceed.

Step 2 – Configure Share (1)


Not Secure
10.0.0.100:8080/cgi-bin/
admin
Control Panel
File Station
Storage & Snapshots
App Center
Help Center
Container Station
QVR Pro
11:20
Wed., Jan 2

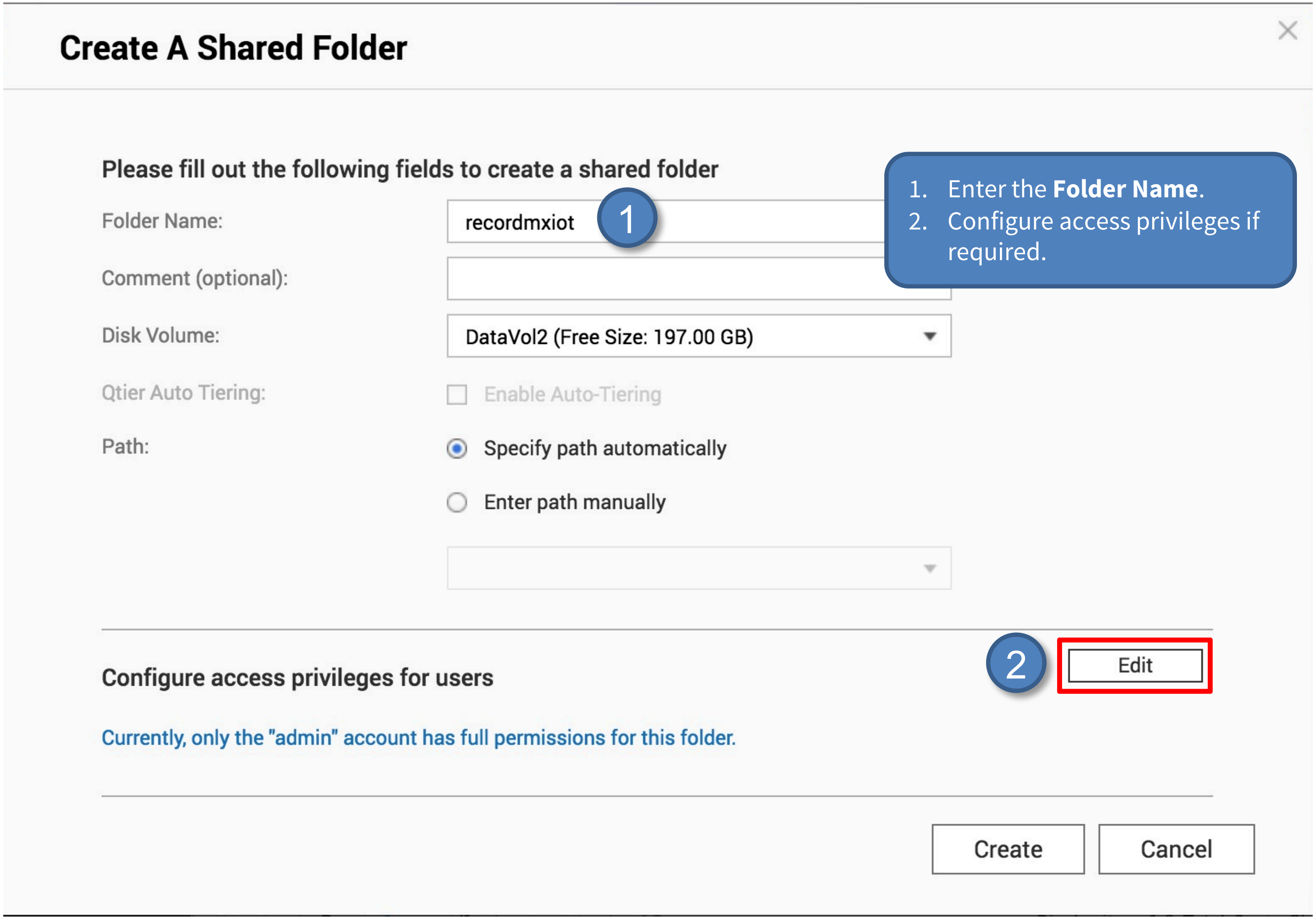
Open **File Station**.

Step 2 – Configure Share (2)


File Station
FileStation 5
Snapshot
Remote Mount
Public
MxNAS
DataVol1
Snapshot
DataVol2
Share link management
Shared with me
Recycle Bin
Name
Modified Date
Type
Size
@Recycle
2018/12/28 10:21:50
Folder
hot
2018/12/28 10:21:50
Folder
Create a Shared Folder
Snapshot Manager
Page 1 /1
Display item: 1-2, Total: 2
Show 50 Item(s)

1. Open the settings for **Data Vol2**.
2. Select **Create a Shared Folder**.

Step 2 – Configure Share (3)



Create A Shared Folder

Please fill out the following fields to create a shared folder

Folder Name: recordmxiot

Comment (optional):

Disk Volume: DataVol2 (Free Size: 197.00 GB)

Qtier Auto Tiering: ☐ Enable Auto-Tiering

Path: ● Specify path automatically

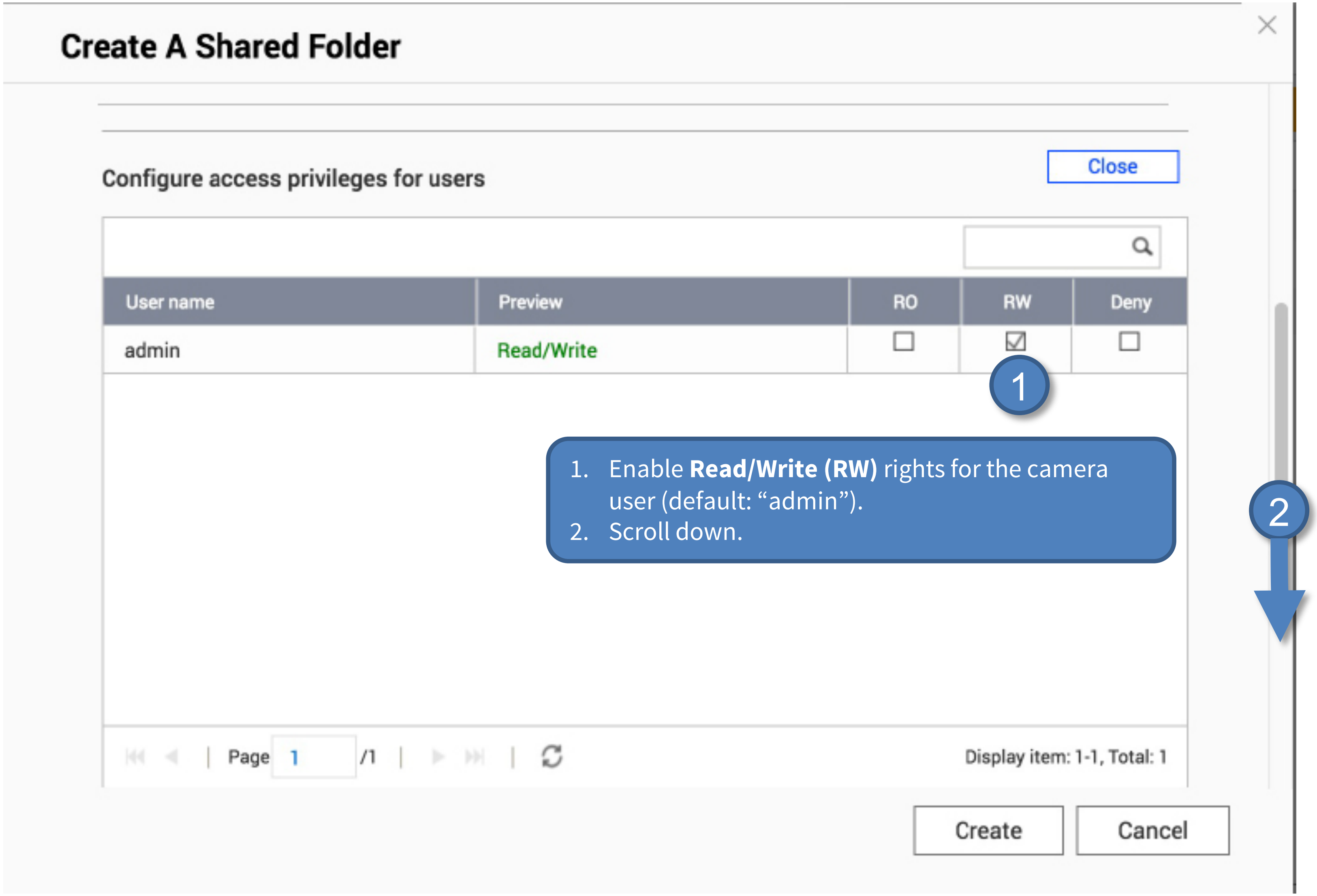
○ Enter path manually

Configure access privileges for users

Currently, only the "admin" account has full permissions for this folder.

1. Enter the **Folder Name**.
2. Configure access privileges if required.

Step 2 – Configure Share (4)



Create A Shared Folder

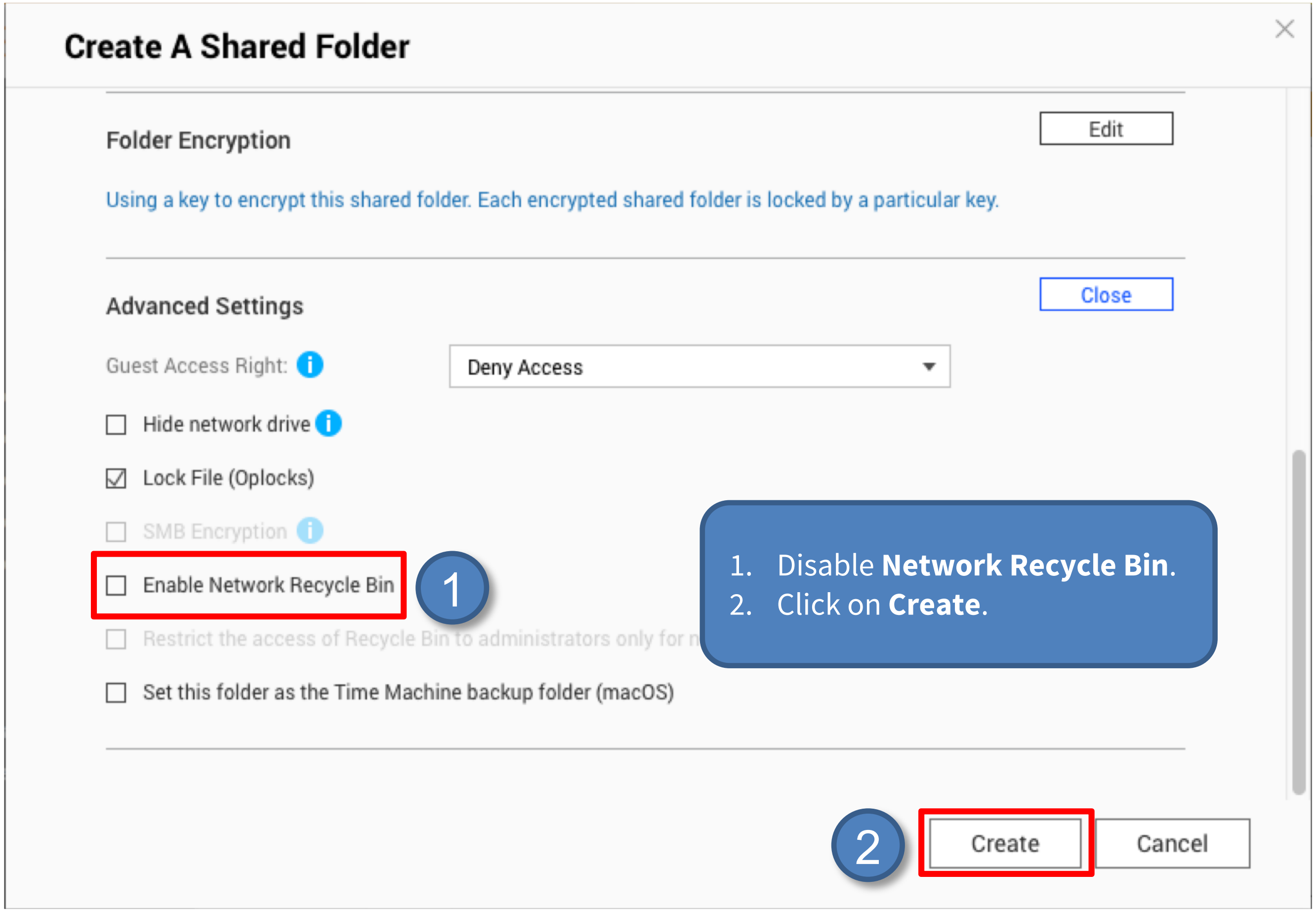
Configure access privileges for users

User name	Preview	RO	RW	Deny
admin	Read/Write	☐	☑	☐

Close
Page 1 /1
Display item: 1-1, Total: 1
Create
Cancel
1
2

1. Enable **Read/Write (RW)** rights for the camera user (default: “admin”).
2. Scroll down.

Step 2 – Configure Share (5)



Create A Shared Folder

Folder Encryption

Using a key to encrypt this shared folder. Each encrypted shared folder is locked by a particular key.

Advanced Settings

Guest Access Right: Deny Access

☐ Hide network drive

☑ Lock File (Oplocks)

☐ SMB Encryption

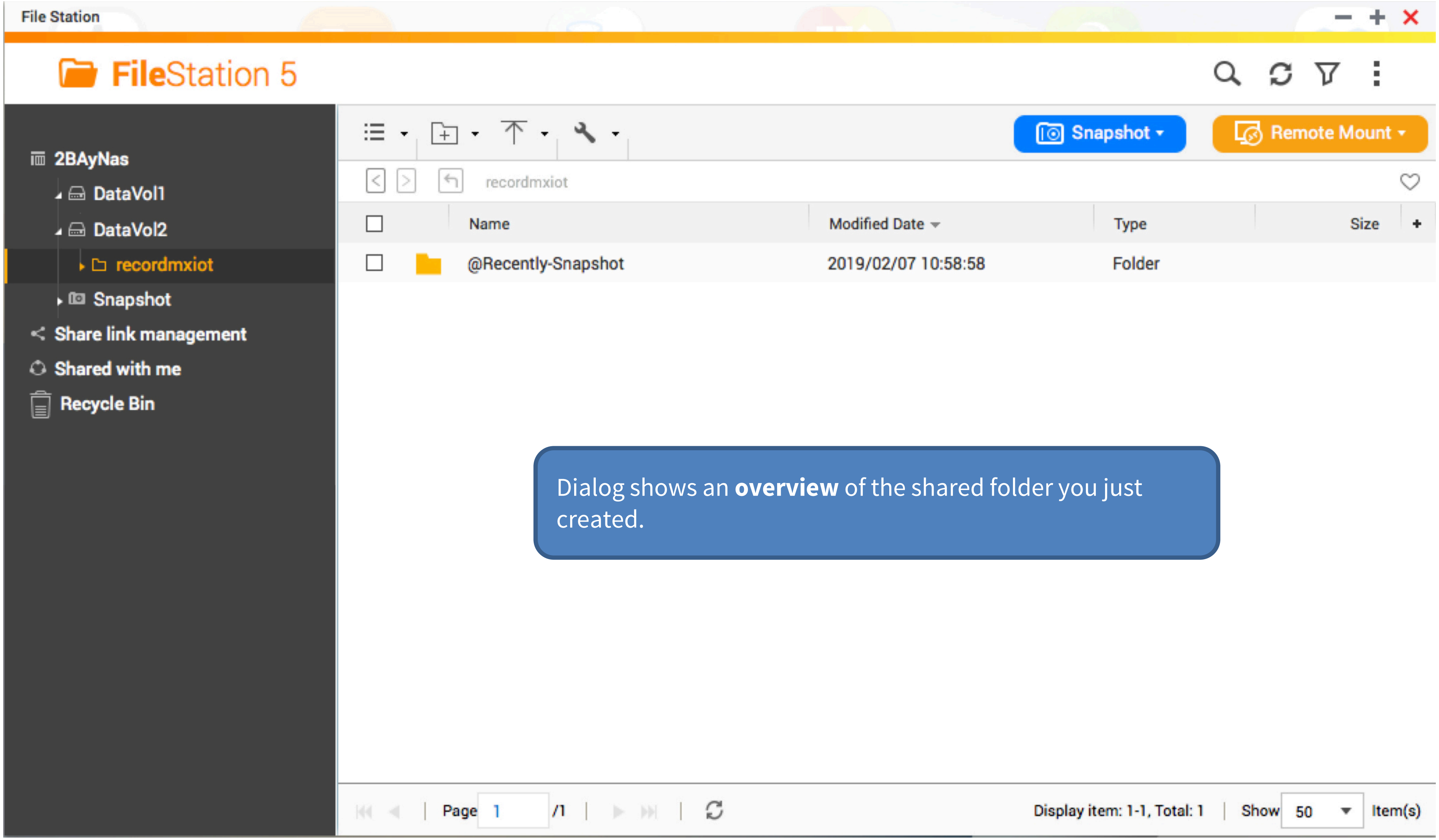
☐ Enable Network Recycle Bin

☐ Restrict the access of Recycle Bin to administrators only for

☐ Set this folder as the Time Machine backup folder (macOS)

1. Disable **Network Recycle Bin**.
2. Click on **Create**.

Step 2 – Configure Share (Completed)


File Station
FileStation 5
Snapshot
Remote Mount
2BAyNas
DataVol1
DataVol2
recordmxiot
Snapshot
Share link management
Shared with me
Recycle Bin
recordmxiot

☐	Name	Modified Date	Type	Size
☐	@Recently-Snapshot	2019/02/07 10:58:58	Folder	

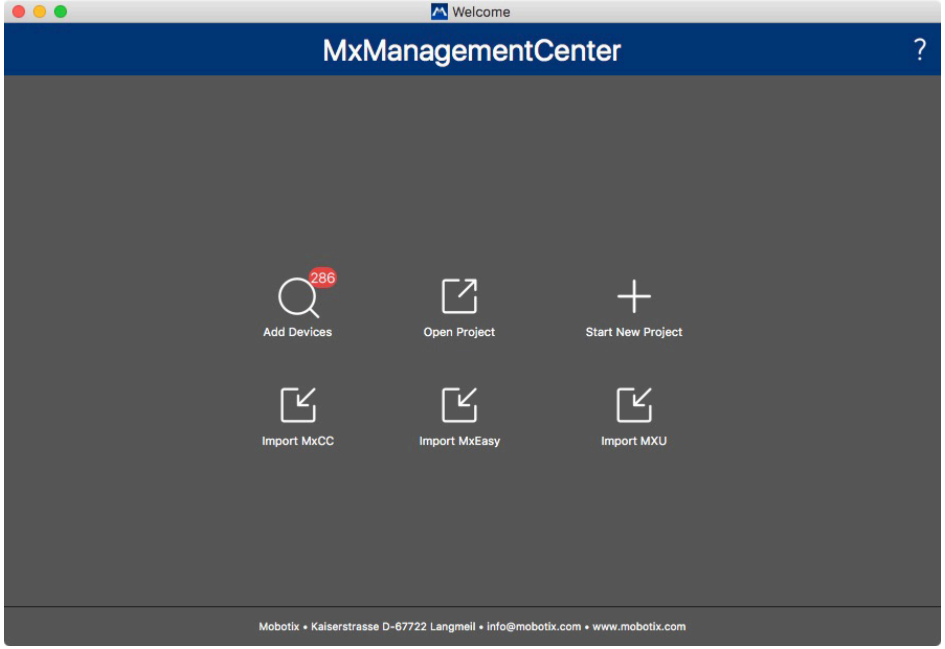
Page 1 /1
Display item: 1-1, Total: 1
Show 50 Item(s)

Dialog shows an **overview** of the shared folder you just created.

Step 3 – Add MOBOTIX IoT Cameras to MxManagementCenter

1. Start **MxManagementCenter**.

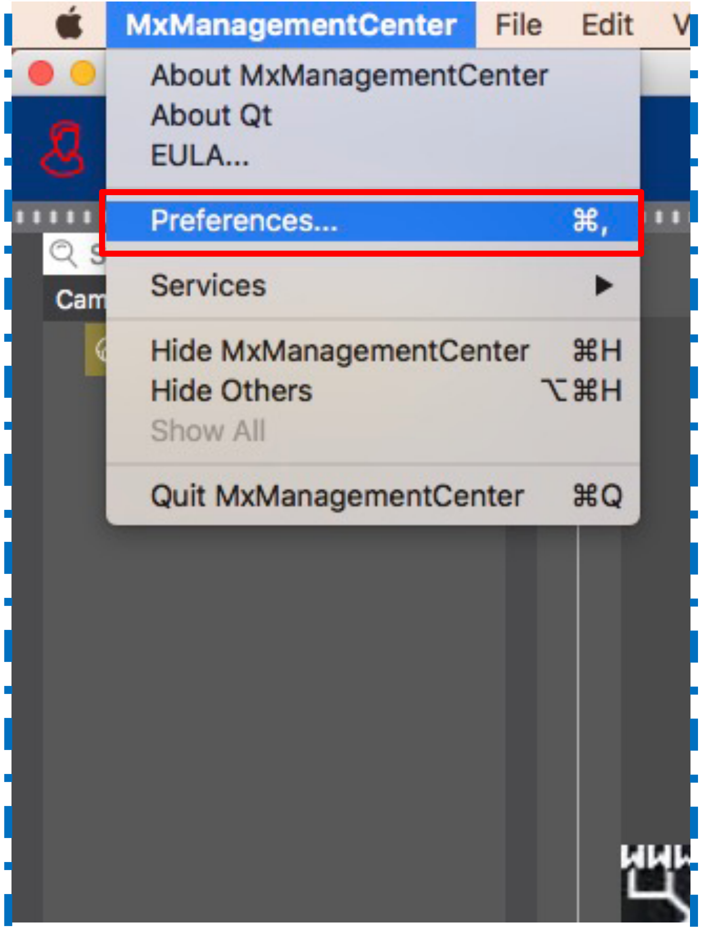
2. Start the **Welcome** wizard by clicking on **File > Welcome** in the menu bar.


Welcome
MxManagementCenter
?
286
Add Devices
Open Project
Start New Project
Import MxCC
Import MxEasy
Import MXU
Mobotix • Kaiserstrasse D-67722 Langmeil • info@mobotix.com • www.mobotix.com

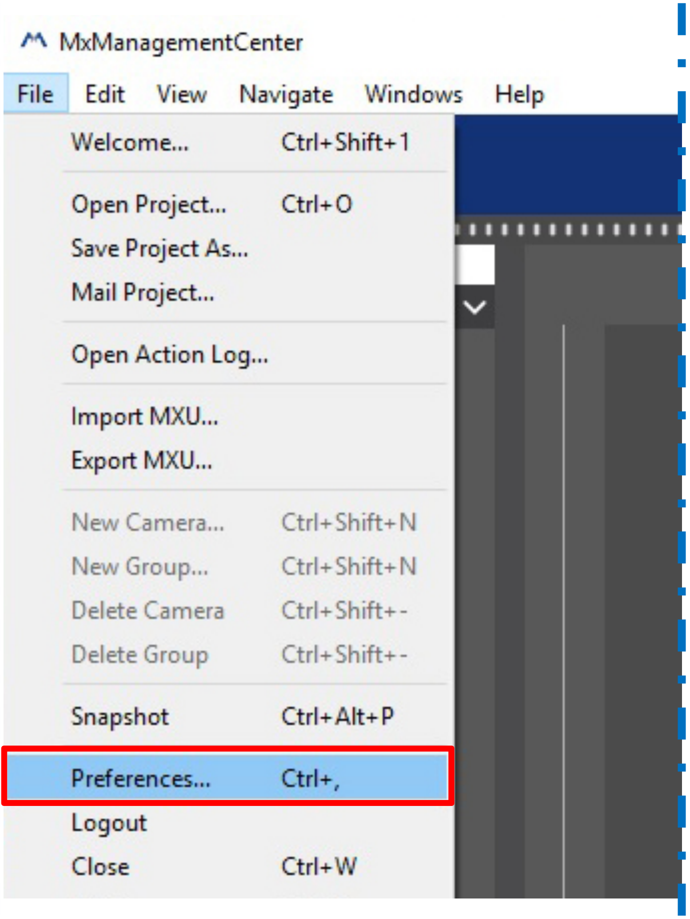
3. Click on **Add Devices**. Then select the desired MOBOTIX IoT cameras to be added to MxMC.

3. Enter the access privileges for each camera.

Step 4 – Assign Recording Paths (1)

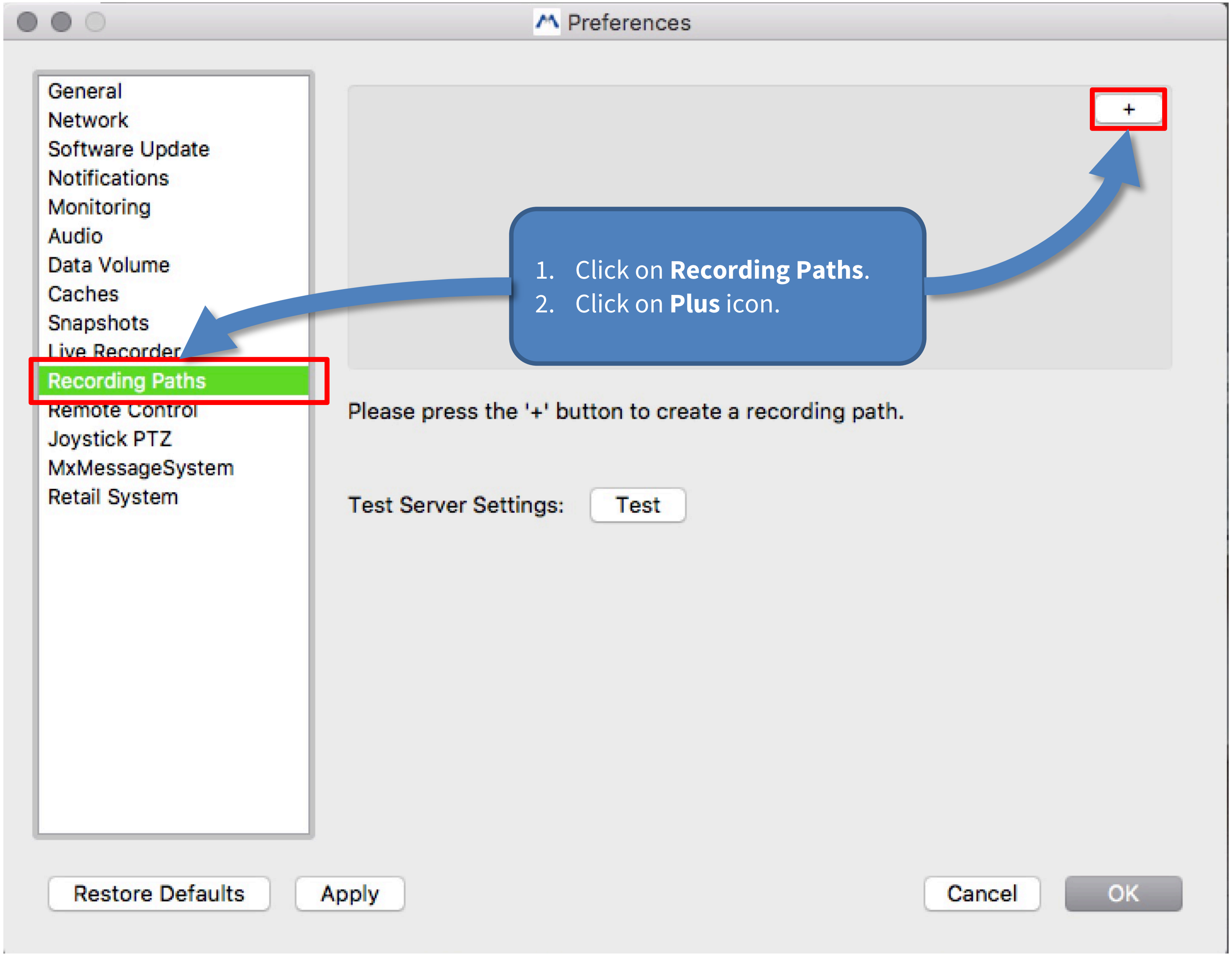

MxManagementCenter
File
Edit
V
About MxManagementCenter
About Qt
EULA…
Preferences… ⌘,
Services ▶
Hide MxManagementCenter ⌘H
Hide Others ⌥⌘H
Show All
Quit MxManagementCenter ⌘Q
Cam

Apple Mac Version


MxManagementCenter
File
Edit
View
Navigate
Windows
Help
Welcome... Ctrl+Shift+1
Open Project... Ctrl+O
Save Project As...
Mail Project...
Open Action Log...
Import MXU...
Export MXU...
New Camera... Ctrl+Shift+N
New Group... Ctrl+Shift+N
Delete Camera Ctrl+Shift+-
Delete Group Ctrl+Shift+-
Snapshot Ctrl+Alt+P
Preferences... Ctrl+,
Logout
Close Ctrl+W

Windows Version

Step 4 – Assign Recording Paths (2)



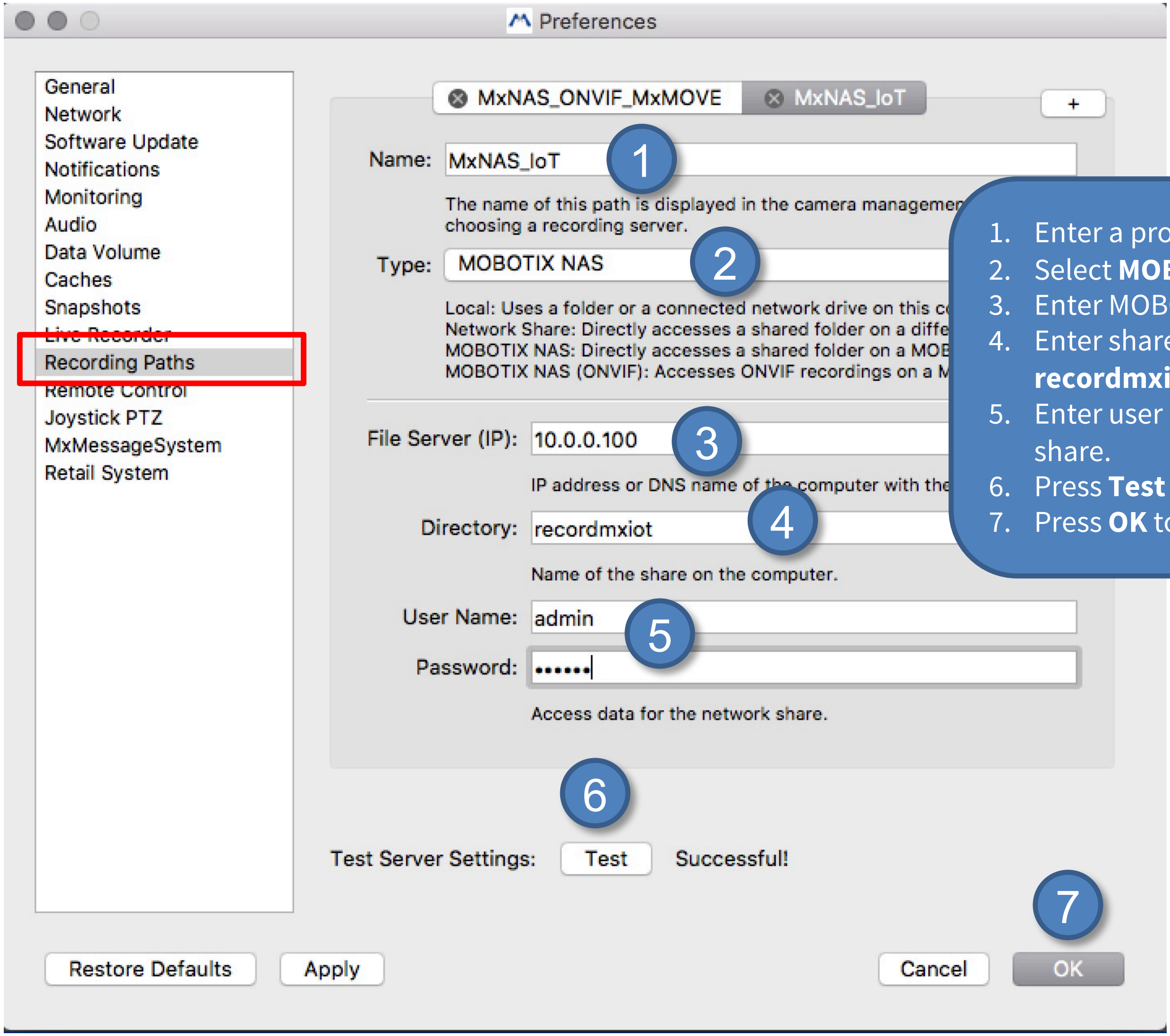
Preferences
General
Network
Software Update
Notifications
Monitoring
Audio
Data Volume
Caches
Snapshots
Live Recorder
Recording Paths
Remote Control
Joystick PTZ
MxMessageSystem
Retail System
+
Test
Restore Defaults
Apply
Cancel
OK

1. Click on **Recording Paths**.
2. Click on **Plus** icon.

Please press the '+' button to create a recording path.

Test Server Settings:

Step 4 – Assign Recording Paths (3)


Preferences
General
Network
Software Update
Notifications
Monitoring
Audio
Data Volume
Caches
Snapshots
Live Recorder
Recording Paths
Remote Control
Joystick PTZ
MxMessageSystem
Retail System
MxNAS_ONVIF_MxMOVE
MxNAS_IoT
+
1
2
3
4
5
6
7
Restore Defaults
Apply
Cancel
OK

Name: MxNAS_IoT

The name of this path is displayed in the camera managemen
choosing a recording server.

Type: MOBOTIX NAS

Local: Uses a folder or a connected network drive on this c
Network Share: Directly accesses a shared folder on a diffe
MOBOTIX NAS: Directly accesses a shared folder on a MOB
MOBOTIX NAS (ONVIF): Accesses ONVIF recordings on a M

File Server (IP): 10.0.0.100

IP address or DNS name of the computer with the

Directory: recordmxiot

Name of the share on the computer.

User Name: admin

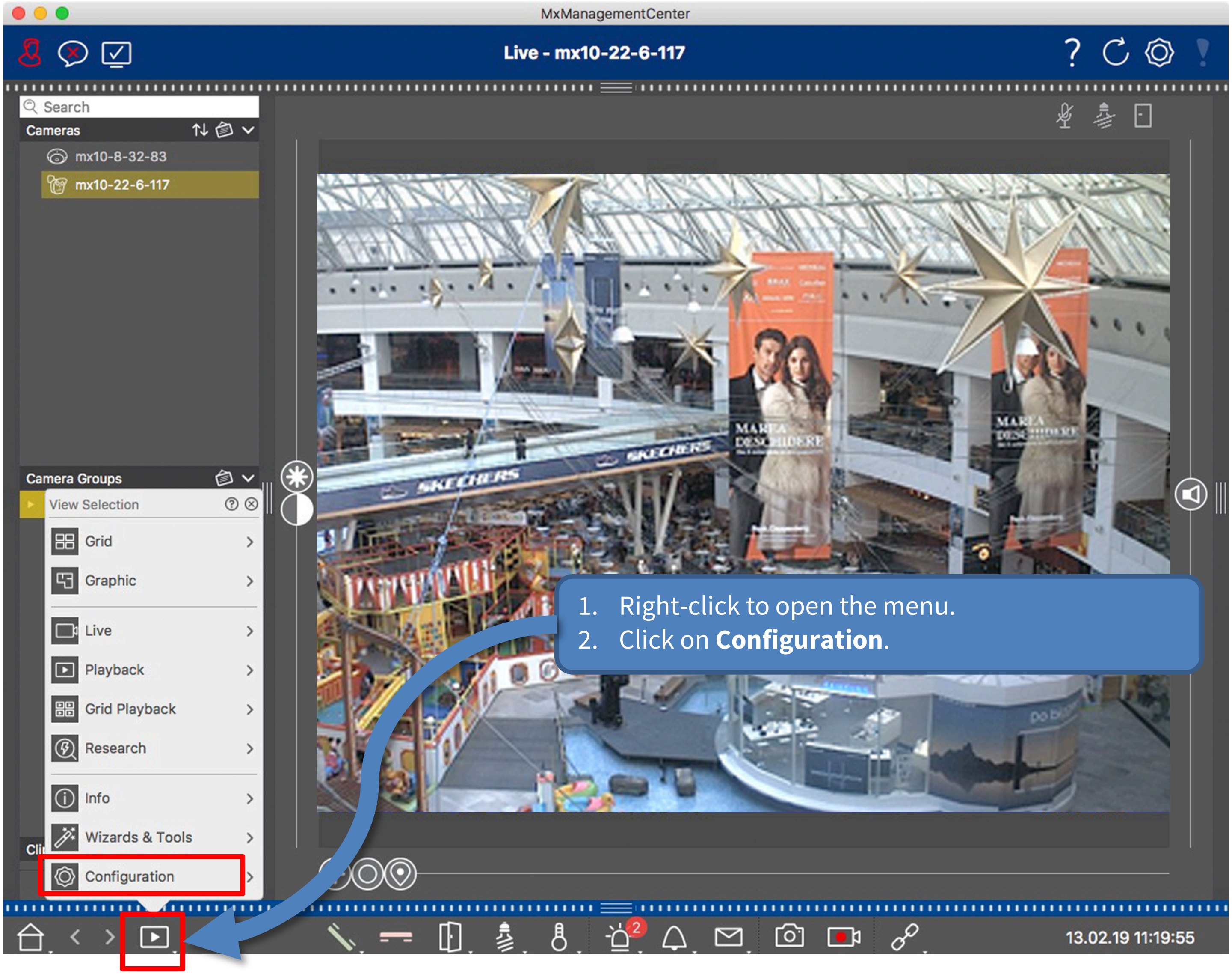
Password: ••••••

Access data for the network share.

Test Server Settings: Test Successful!

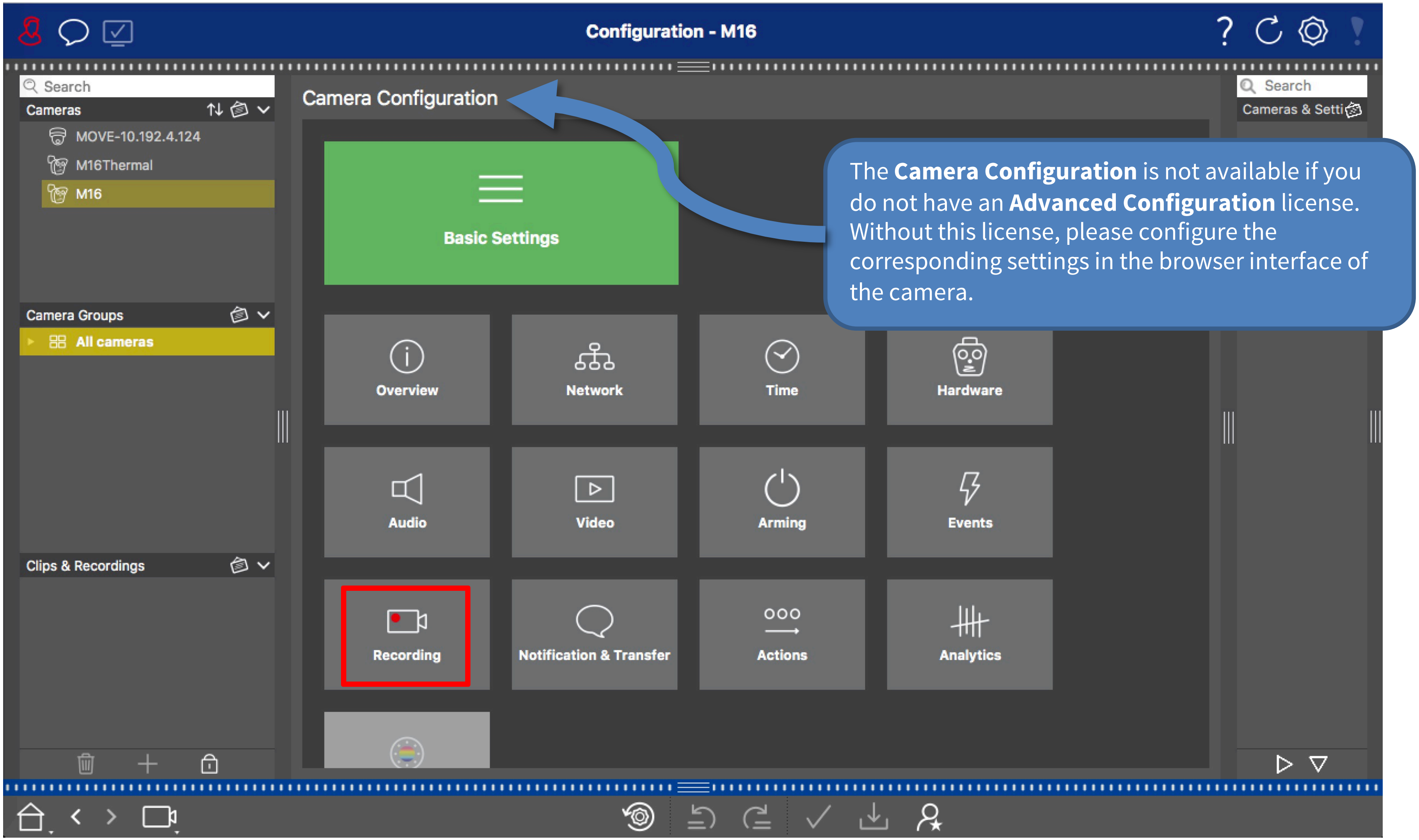
1. Enter a profile name (e.g., **MxNAS_IoT**).
2. Select **MOBOTIX NAS**.
3. Enter MOBOTIX NAS IP address.
4. Enter share name as defined before (e.g., **recordmxiot**).
5. Enter user name and password for accessing the share.
6. Press **Test** to check the connection.
7. Press **OK** to store the settings.

Step 5 – Configure Camera Recording (1)


MxManagementCenter
Live - mx10-22-6-117
Search
Cameras
mx10-8-32-83
mx10-22-6-117
Camera Groups
View Selection
Grid
Graphic
Live
Playback
Grid Playback
Research
Info
Wizards & Tools
Configuration
13.02.19 11:19:55

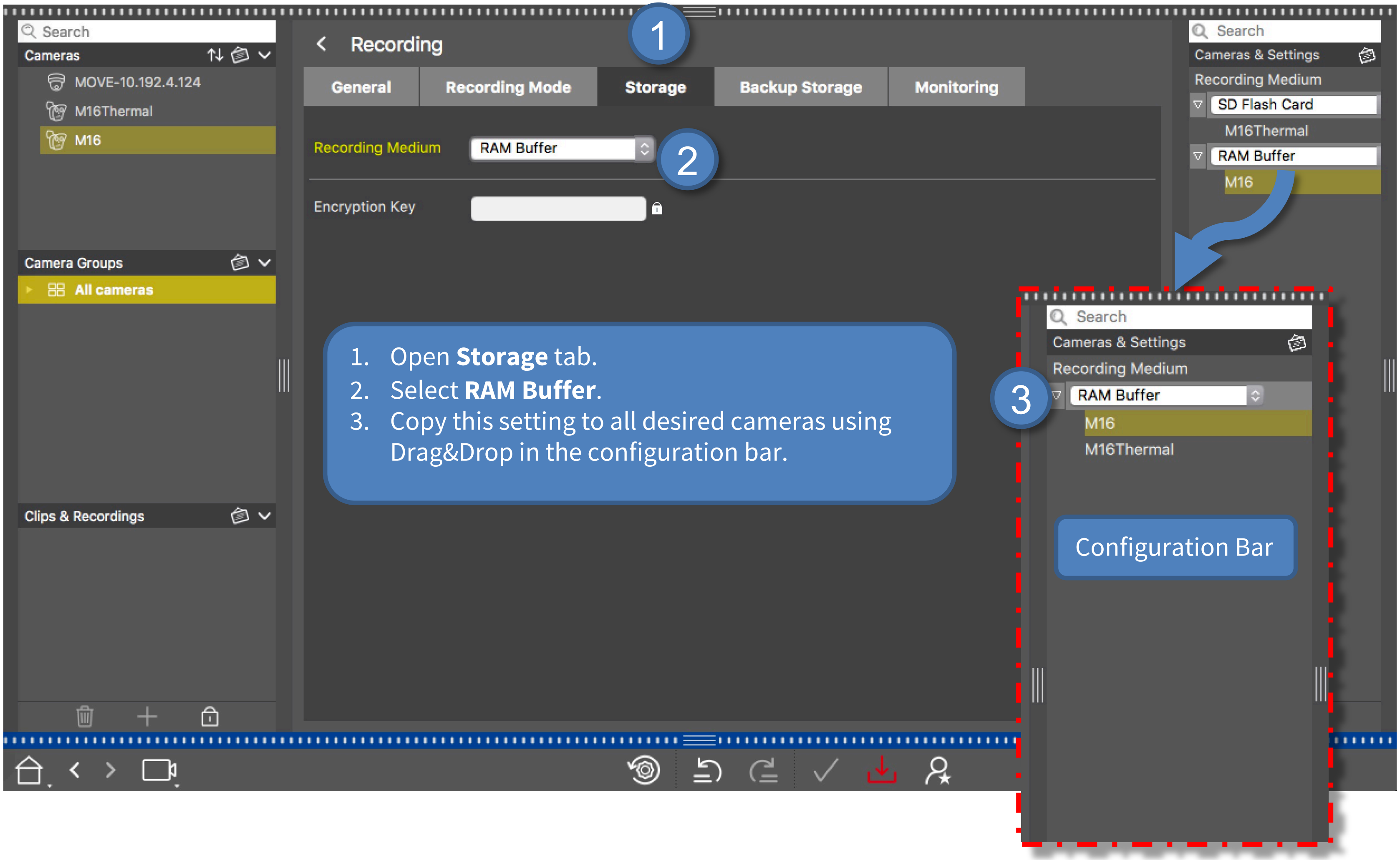
1. Right-click to open the menu.
2. Click on **Configuration**.

Step 5 – Configure Camera Recording (2)


Configuration - M16
Search
Cameras
MOVE-10.192.4.124
M16Thermal
M16
Camera Groups
All cameras
Clips & Recordings
Camera Configuration
Basic Settings
Overview
Network
Time
Hardware
Audio
Video
Arming
Events
Recording
Notification & Transfer
Actions
Analytics
Search
Cameras & Setti

The **Camera Configuration** is not available if you do not have an **Advanced Configuration** license. Without this license, please configure the corresponding settings in the browser interface of the camera.

Step 5 – Configure Camera Recording (3)



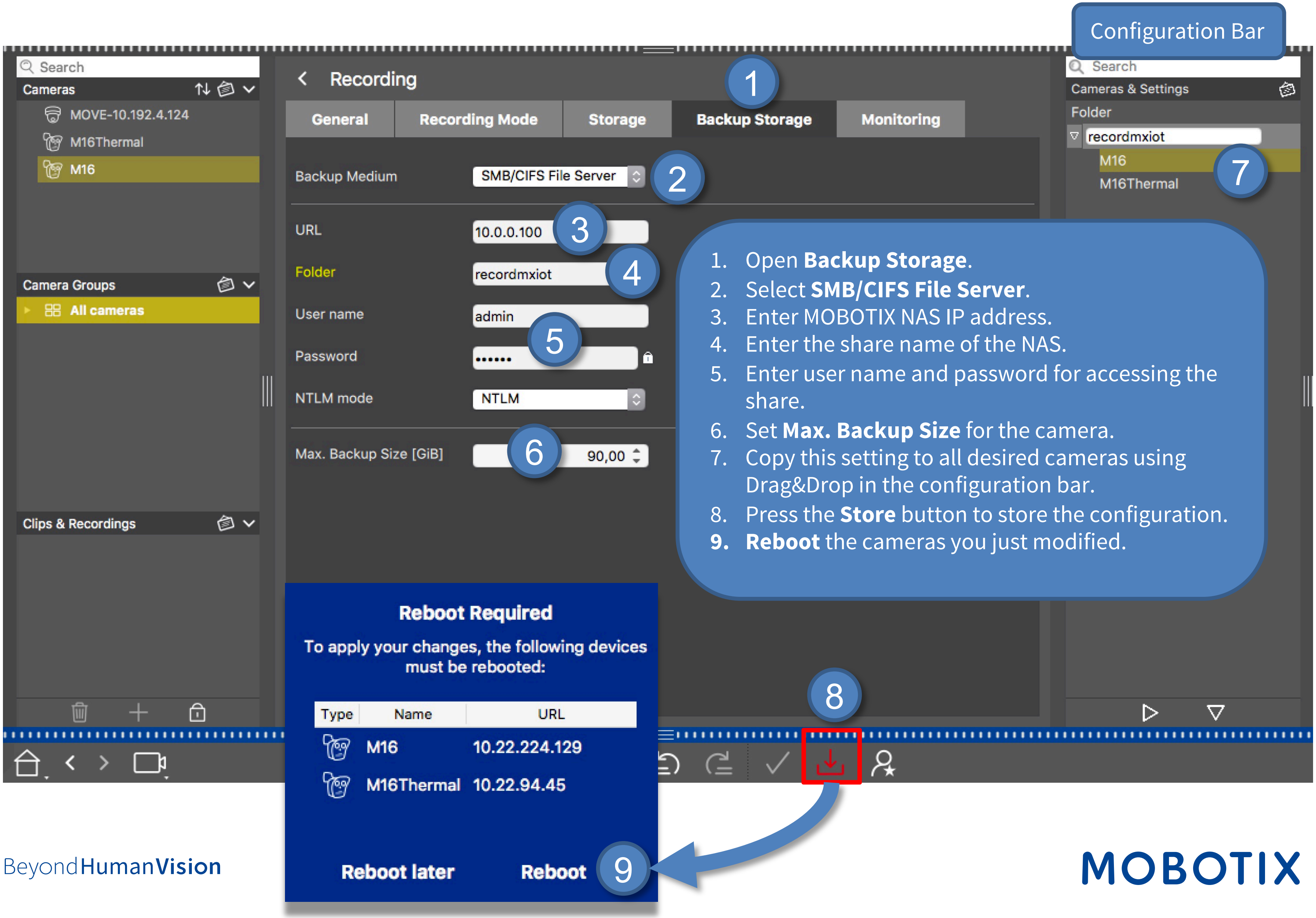
1. Open **Storage** tab.
2. Select **RAM Buffer**.
3. Copy this setting to all desired cameras using Drag&Drop in the configuration bar.

Recording Medium: RAM Buffer

Encryption Key

1
2
3
Search
Cameras
MOVE-10.192.4.124
M16Thermal
M16
Camera Groups
All cameras
Clips & Recordings
Recording
General
Recording Mode
Storage
Backup Storage
Monitoring
Search
Cameras & Settings
Recording Medium
SD Flash Card
M16Thermal
RAM Buffer
M16
Search
Cameras & Settings
Recording Medium
RAM Buffer
M16
M16Thermal
Configuration Bar

Step 5 – Configure Camera Recording (4)


Configuration Bar
Search
Cameras
MOVE-10.192.4.124
M16Thermal
M16
Camera Groups
All cameras
Clips & Recordings
Recording
General
Recording Mode
Storage
Backup Storage
Monitoring
Cameras & Settings
Folder
recordmxiot
M16
M16Thermal
1
2
3
4
5
6
7
8
9

Backup Medium: SMB/CIFS File Server

URL: 10.0.0.100

Folder: recordmxiot

User name: admin

Password: ••••••

NTLM mode: NTLM

Max. Backup Size [GiB]: 90,00

Reboot Required

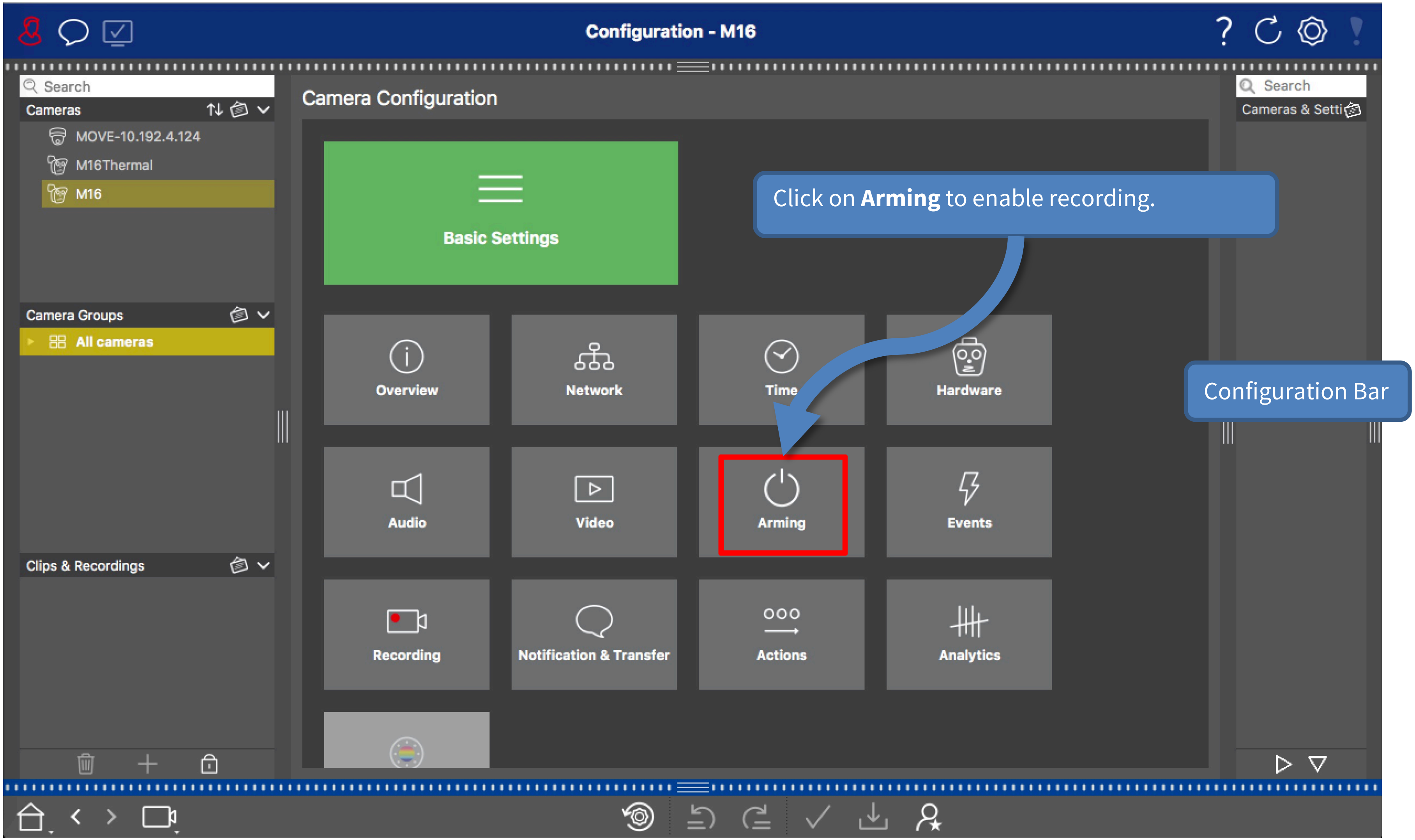
To apply your changes, the following devices must be rebooted:

Type	Name	URL
	M16	10.22.224.129
	M16Thermal	10.22.94.45

Reboot later **Reboot**

1. Open **Backup Storage**.
2. Select **SMB/CIFS File Server**.
3. Enter MOBOTIX NAS IP address.
4. Enter the share name of the NAS.
5. Enter user name and password for accessing the share.
6. Set **Max. Backup Size** for the camera.
7. Copy this setting to all desired cameras using Drag&Drop in the configuration bar.
8. Press the **Store** button to store the configuration.
9. **Reboot** the cameras you just modified.

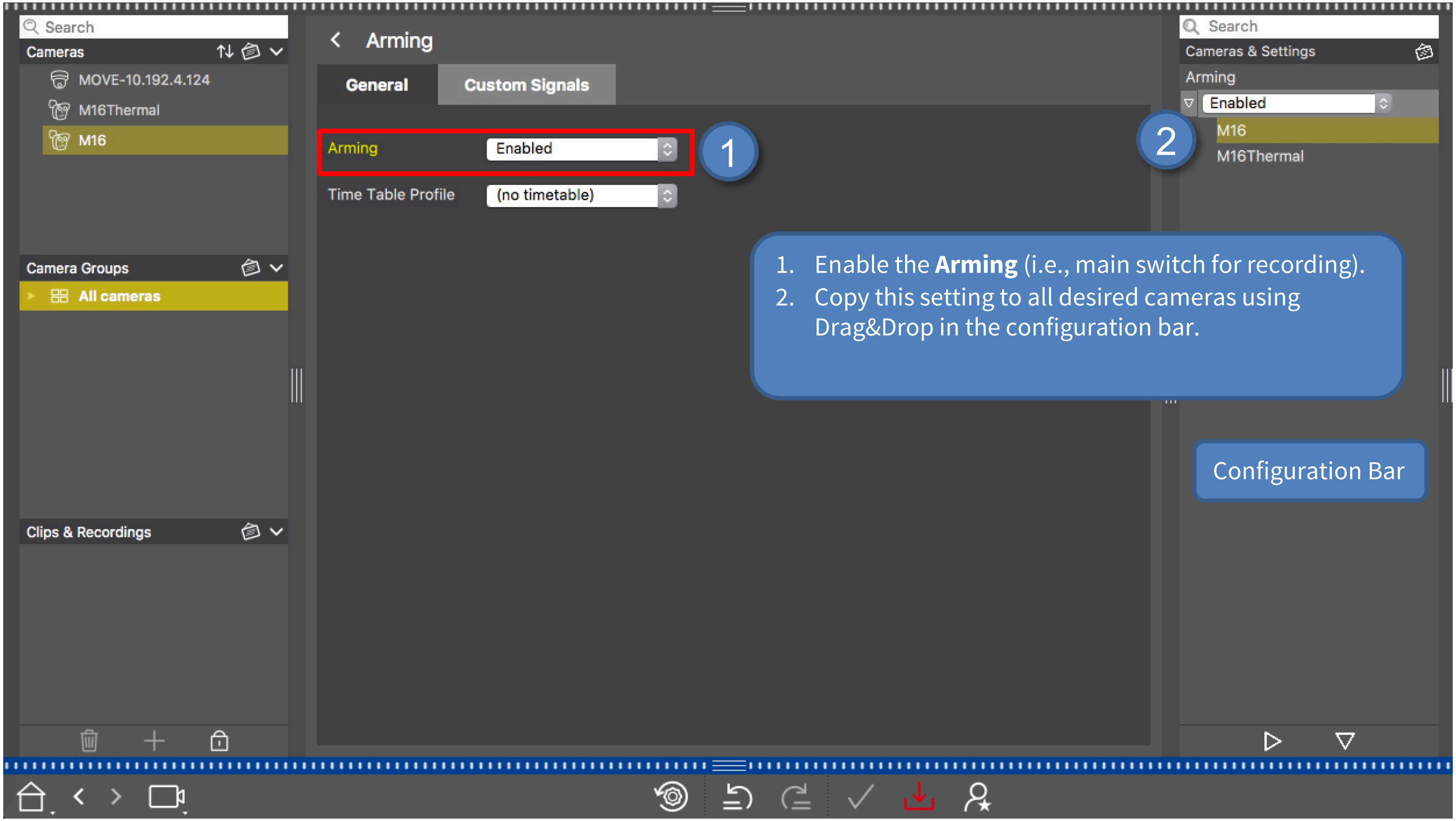
Step 6 – Configure Camera Arming and Recording Mode (1)


Configuration - M16
Search
Cameras
MOVE-10.192.4.124
M16Thermal
M16
Camera Groups
All cameras
Clips & Recordings
Camera Configuration
Basic Settings
Overview
Network
Time
Hardware
Audio
Video
Arming
Events
Recording
Notification & Transfer
Actions
Analytics
Search
Cameras & Setti

Click on **Arming** to enable recording.

Configuration Bar

Step 6– Configure Camera Arming and Recording Mode (2)


Search
Cameras
MOVE-10.192.4.124
M16Thermal
M16
Camera Groups
All cameras
Clips & Recordings
Arming
General
Custom Signals
1
2
Search
Cameras & Settings
Arming
M16
M16Thermal

Arming: Enabled

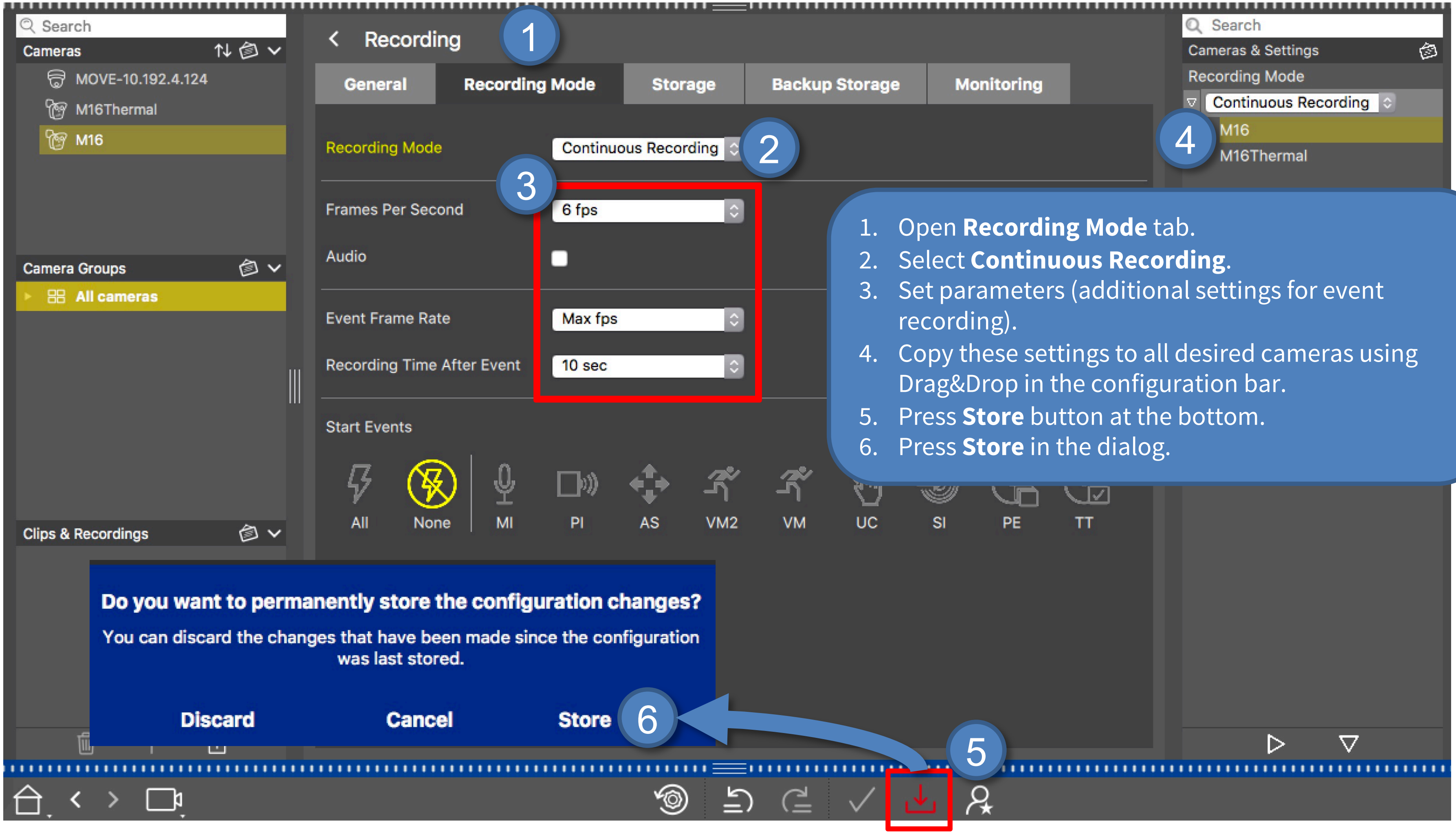
Time Table Profile: (no timetable)

Arming: Enabled

1. Enable the **Arming** (i.e., main switch for recording).
2. Copy this setting to all desired cameras using Drag&Drop in the configuration bar.

Configuration Bar

Step 6 – Configure Camera Arming and Recording Mode (3)


Search
Cameras
MOVE-10.192.4.124
M16Thermal
M16
Camera Groups
All cameras
Clips & Recordings
Recording
1
General
Recording Mode
Storage
Backup Storage
Monitoring
2
3
Start Events
All
None
MI
PI
AS
VM2
VM
UC
SI
PE
TT
Search
Cameras & Settings
Recording Mode
Continuous Recording
4
M16
M16Thermal
Discard
Cancel
Store
6
5

Recording Mode: Continuous Recording

Frames Per Second: 6 fps

Audio: ☐

Event Frame Rate: Max fps

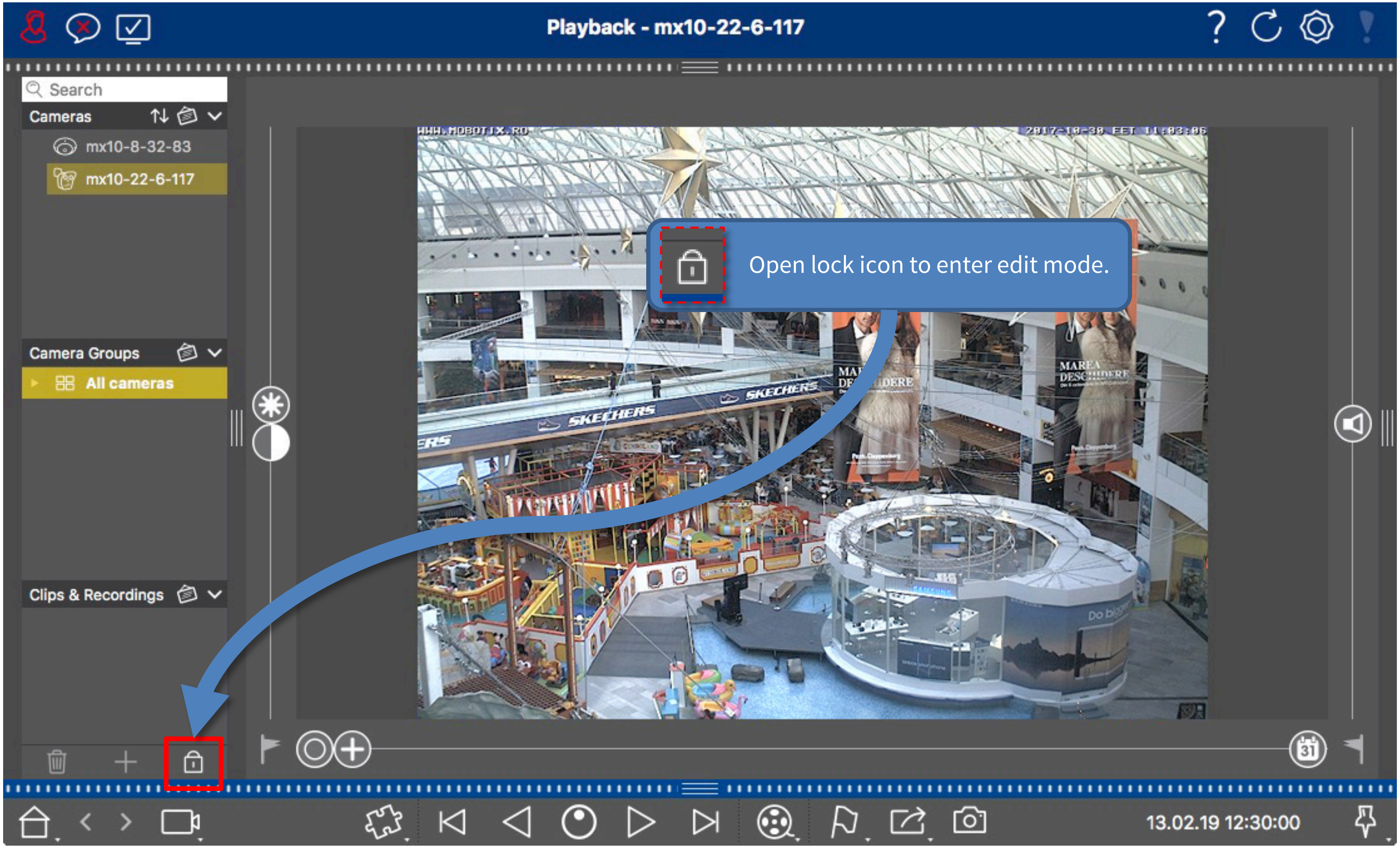
Recording Time After Event: 10 sec

Do you want to permanently store the configuration changes?

You can discard the changes that have been made since the configuration was last stored.

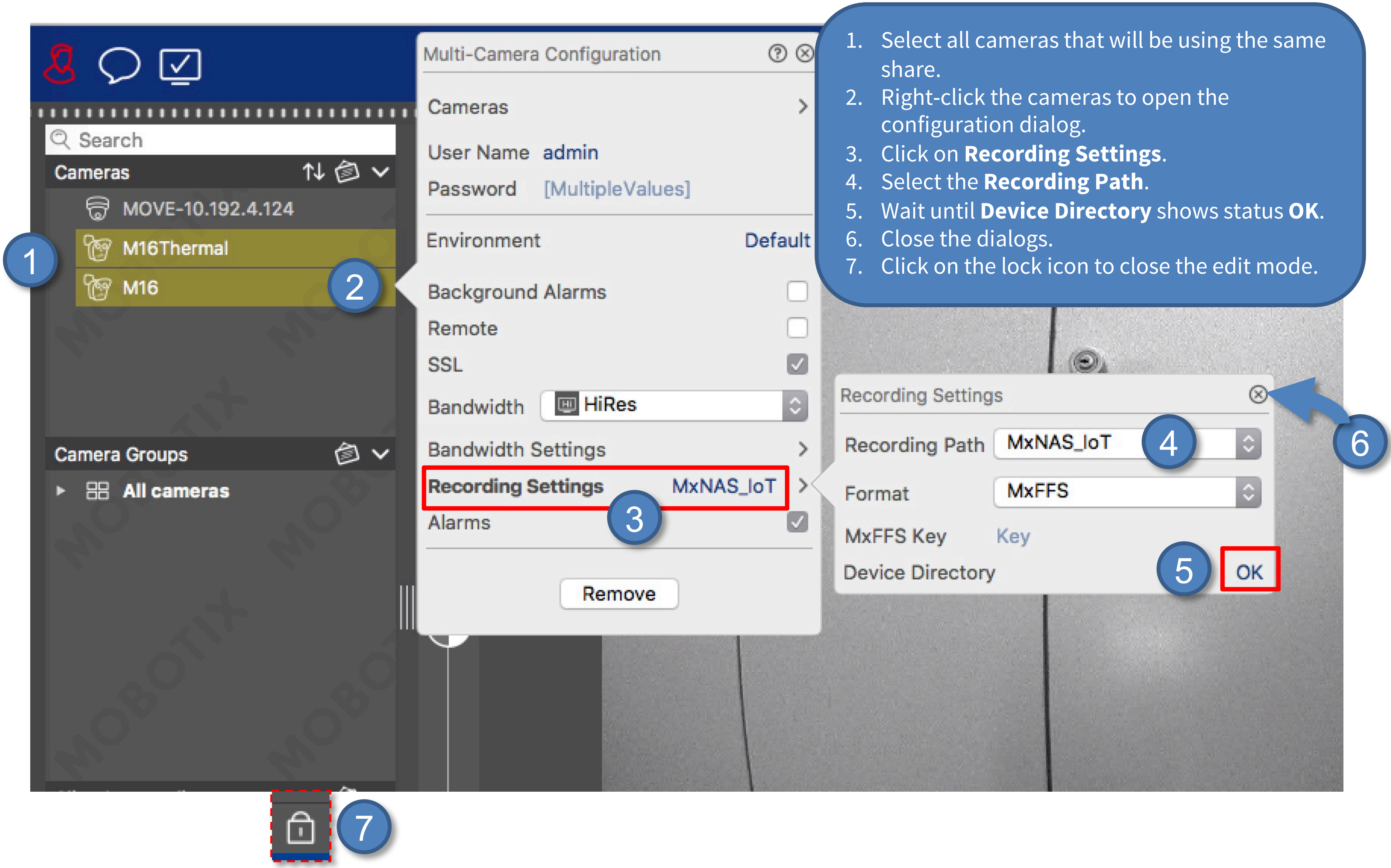
1. Open **Recording Mode** tab.
2. Select **Continuous Recording**.
3. Set parameters (additional settings for event recording).
4. Copy these settings to all desired cameras using Drag&Drop in the configuration bar.
5. Press **Store** button at the bottom.
6. Press **Store** in the dialog.

Step 7 – Assign Cameras to Share (1)


Playback - mx10-22-6-117
Search
Cameras
mx10-8-32-83
mx10-22-6-117
Camera Groups
All cameras
Clips & Recordings
13.02.19 12:30:00

Open lock icon to enter edit mode.

Step 7 – Assign Cameras to Share (2)



Search

Cameras

MOVE-10.192.4.124

M16Thermal

M16

Camera Groups

All cameras

Multi-Camera Configuration

Cameras

User Name admin

Password [MultipleValues]

Environment Default

Background Alarms ☐

Remote ☐

SSL ☑

Bandwidth HiRes

Bandwidth Settings

Recording Settings MxNAS_IoT

Alarms ☑

Remove

Recording Settings

Recording Path MxNAS_IoT

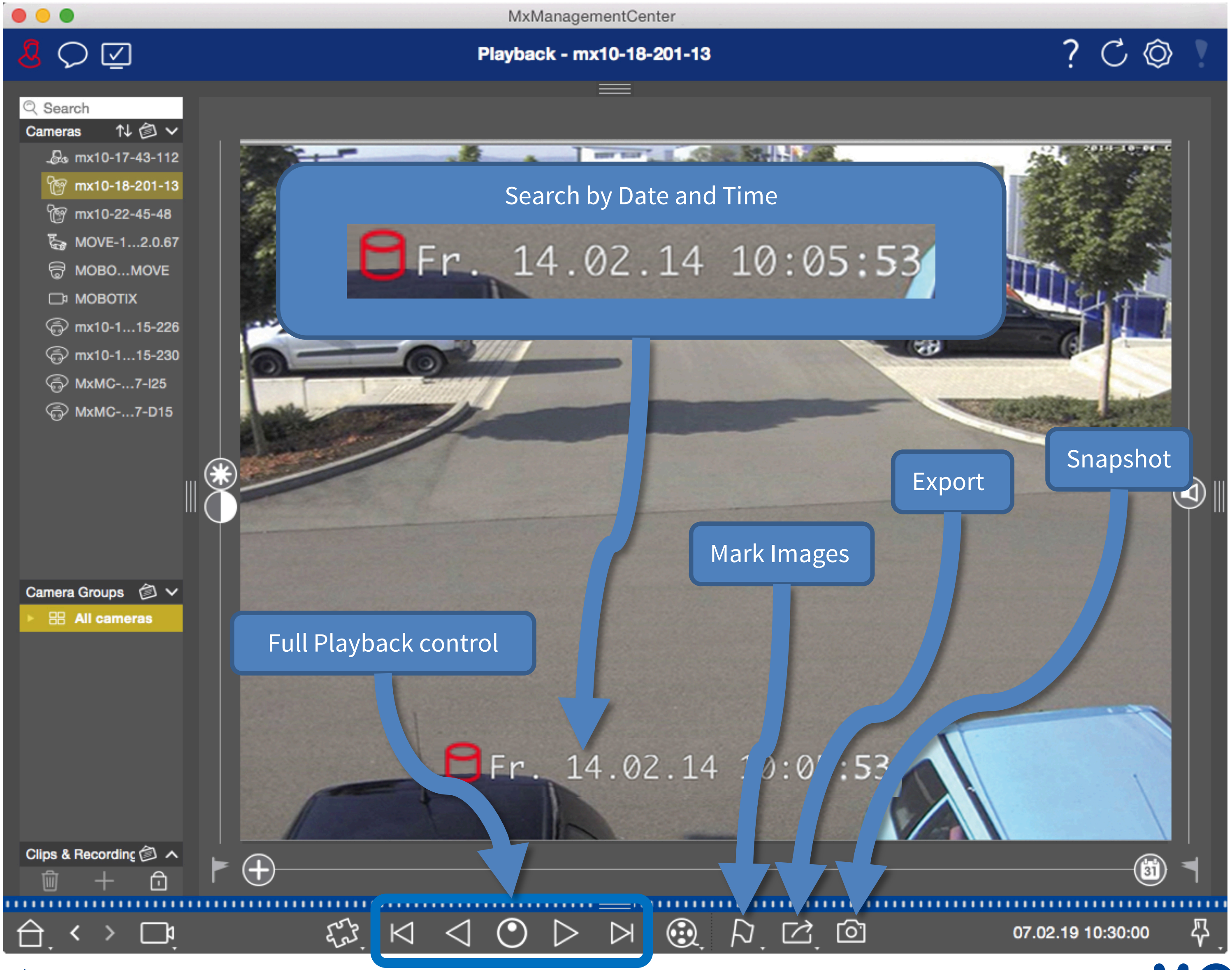
Format MxFFS

MxFFS Key Key

Device Directory OK

1. Select all cameras that will be using the same share.
2. Right-click the cameras to open the configuration dialog.
3. Click on **Recording Settings**.
4. Select the **Recording Path**.
5. Wait until **Device Directory** shows status **OK**.
6. Close the dialogs.
7. Click on the lock icon to close the edit mode.

Finished – Playback of MOBOTIX IoT Cameras in MxManagementCenter



MxManagementCenter
Playback - mx10-18-201-13
Search
Cameras
mx10-17-43-112
mx10-18-201-13
mx10-22-45-48
MOVE-1...2.0.67
MOBO...MOVE
MOBOTIX
mx10-1...15-226
mx10-1...15-230
MxMC-...7-I25
MxMC-...7-D15
Camera Groups
All cameras
Clips & Recording
Search by Date and Time
Fr. 14.02.14 10:05:53
Snapshot
Export
Mark Images
Full Playback control
Fr. 14.02.14 10:05:53
07.02.19 10:30:00

BeyondHumanVision

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