

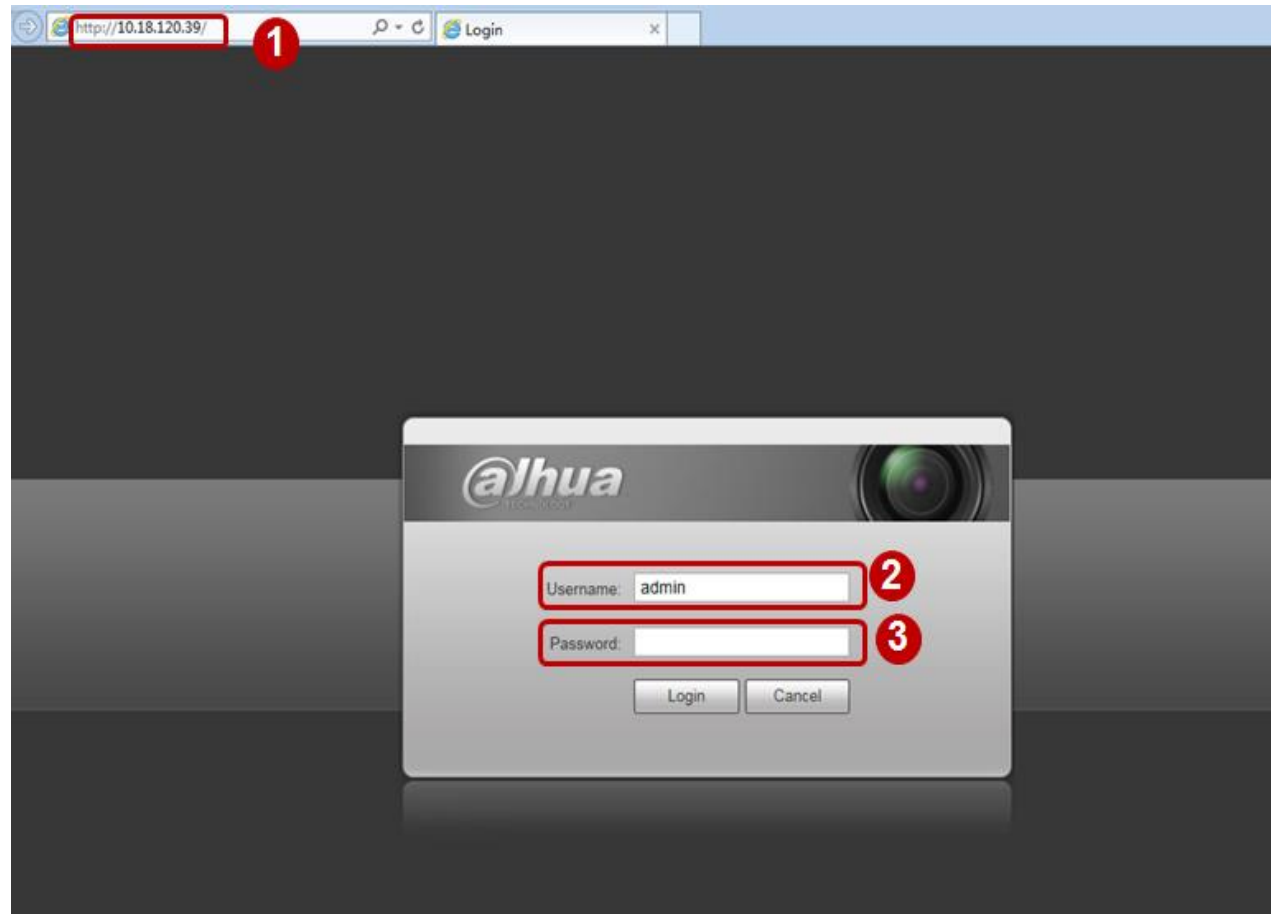
How to set the RAID5 function of NVR?

Equipment Model	Firmware	Course Version	Date
NVR608-32-4KS2	DH_NVR6XX-4KS2_Eng_V3.210.0003.0.R.160714	V1.0	2017/11/30

RAID Levels Summary

RAID level	Disk number	capacity	utilization	performance	safety
RAID0	≥ 2	N	100%	N	★
RAID1	common=2	1	50%	< 1	★★★★★
RAID10	common=4	2	50%	2	★★★★★
RAID5	≥ 3	$N - 1$	$(N - 1) / N$	$N - 1$	★★★★
RAID6	≥ 4	$N - 2$	$(N - 2) / N$	$N - 2$	★★★★★

Setup-RAID5 Function



Steps:

- ① Filled in the NVR IP address in the IE explorer, it will show a login interface .
- ② Then input username and password
- ③ Click on login

Note:

NVR default IP address is 192.168.1.108.

Default username and password are both admin. Please change user password after first time login for security.

Setup-RAID5 Function



1 HDD MANAGE

Device Name	Physical Position	HDD Operation	Status	Free Space/Total Space
sdc	host_6	Read-Write	Normal	927.28GB/931.47GB
sda	host_7	Read-Write	Normal	931.46GB/931.47GB
sdb	host_8	Read-Write	Normal	931.46GB/931.47GB

2 Format

HDD.No. : 3

Steps:

- ① Go to Setup->Storage->HDD manage interface, and check HDD info: number, free space.
- ② If free space is not equal with total space, it needs format before make raid. Click save.

Setup-RAID5 Function



WEB SERVICE PREVIEW PLAYBACK SMART PLAY ALARM SETUP INFO LOGOUT

RAID RAID Info HOTSPARE

Physical Position Host Type RAID5 RAID6 RAID10 HDD.No. (3-16)

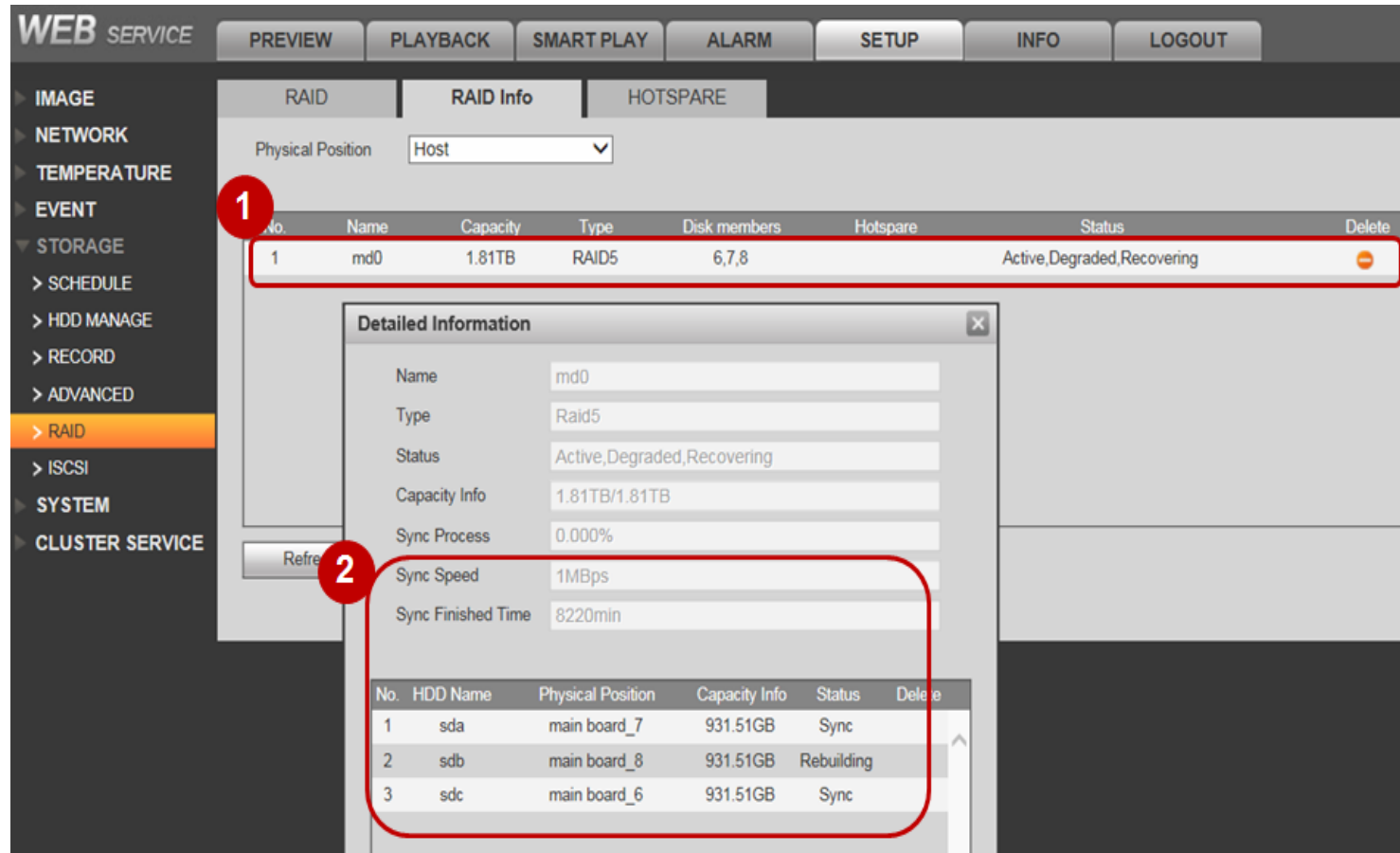
	Name	Capacity	Type	Disk members
<input checked="" type="checkbox"/>	Disk_6	931.51GB	General HDD	-
<input checked="" type="checkbox"/>	Disk_7	931.51GB	General HDD	-
<input checked="" type="checkbox"/>	Disk_8	931.51GB	General HDD	-

Create RAID Create Manually Refresh

Steps:

- ① Go to setup->storage->RAID interface. Choose raid type, like raid0, raid1, raid5,raid6, raid10;
- ② Then select disks you want to make raid;
- ③ Then create raid, there are two way by RAID or manually. creating raid is auto create by system. Manually is creating by yourself.

Setup-RAID5 Function

1 RAID Info interface showing RAID configuration details:

No.	Name	Capacity	Type	Disk members	Hotspare	Status	Delete
1	md0	1.81TB	RAID5	6,7,8		Active,Degraded,Recovering	⊖

2 Detailed Information window showing RAID sync status:

Name	md0
Type	Raid5
Status	Active,Degraded,Recovering
Capacity Info	1.81TB/1.81TB
Sync Process	0.000%
Sync Speed	1MBps
Sync Finished Time	8220min

Disk Status Table:

No.	HDD Name	Physical Position	Capacity Info	Status	Delete
1	sda	main board_7	931.51GB	Sync	
2	sdb	main board_8	931.51GB	Rebuilding	
3	sdc	main board_6	931.51GB	Sync	

Steps:

- ① Go to RAID info interface. Check raid name, capacity, type, disk number and status. Also if you not satisfy, you can delete.
- ② Just check the raid sync time and status. One disk is rebuilding.

Note: you can record when the raid is rebuilding, but the sync speed is down to 1Mbps. If not record, the sync speed is 30Mbps.

Setup-RAID5 Function



WEB SERVICE

PREVIEW PLAYBACK SMART PLAY ALARM SETUP INFO LOGOUT

RAID RAID Info HOTSPARE

Physical Position Host

No.	Name	Capacity	Type	RAID Name	Edit
1	Disk_6	931.51GB	General HDD	-	
2	Disk_7	931.51GB	General HDD	-	
3	Disk_8	931.51GB	General HDD	-	

Refresh

Modify

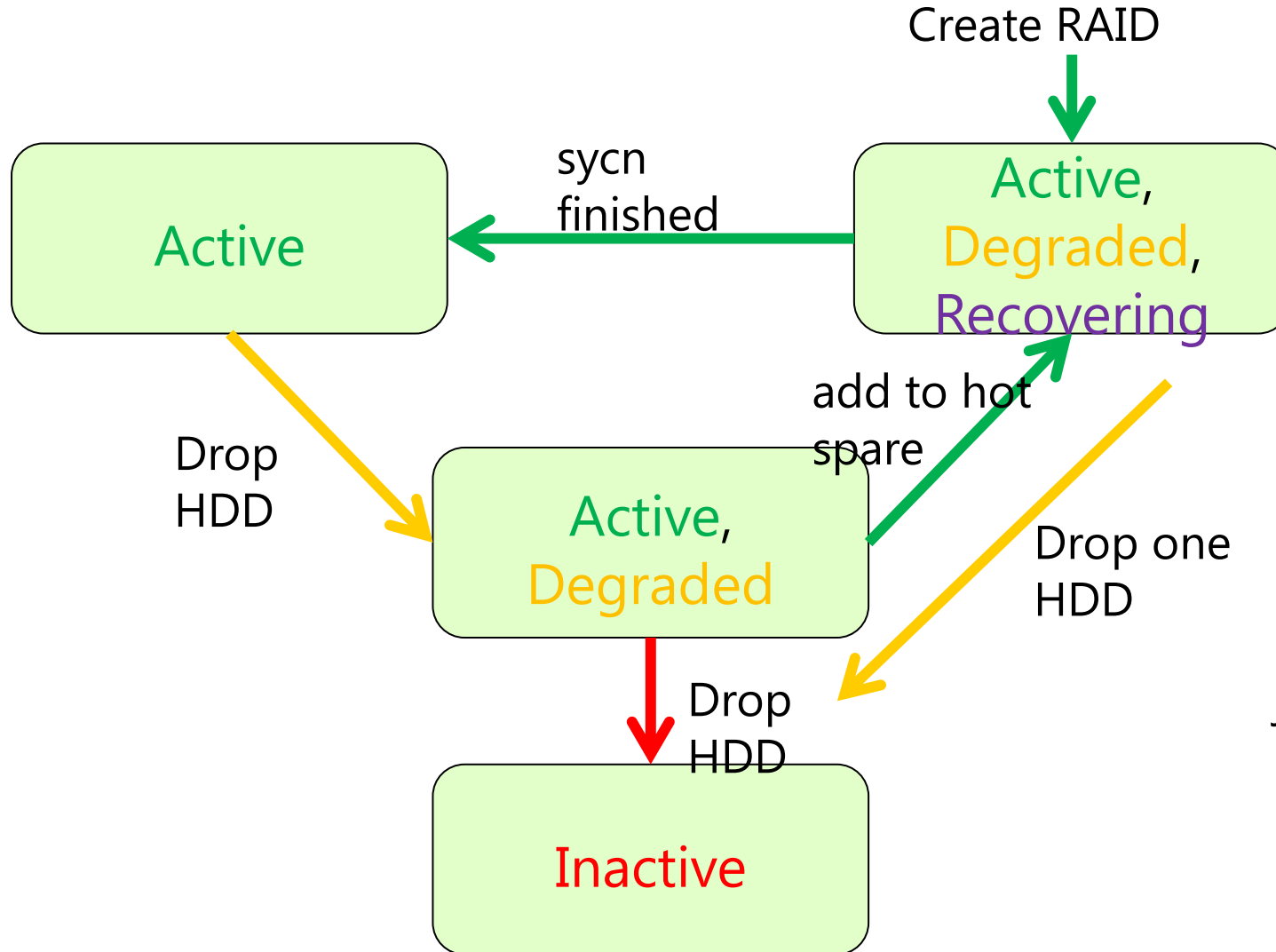
Global Hotspare

OK Cancel

Steps:

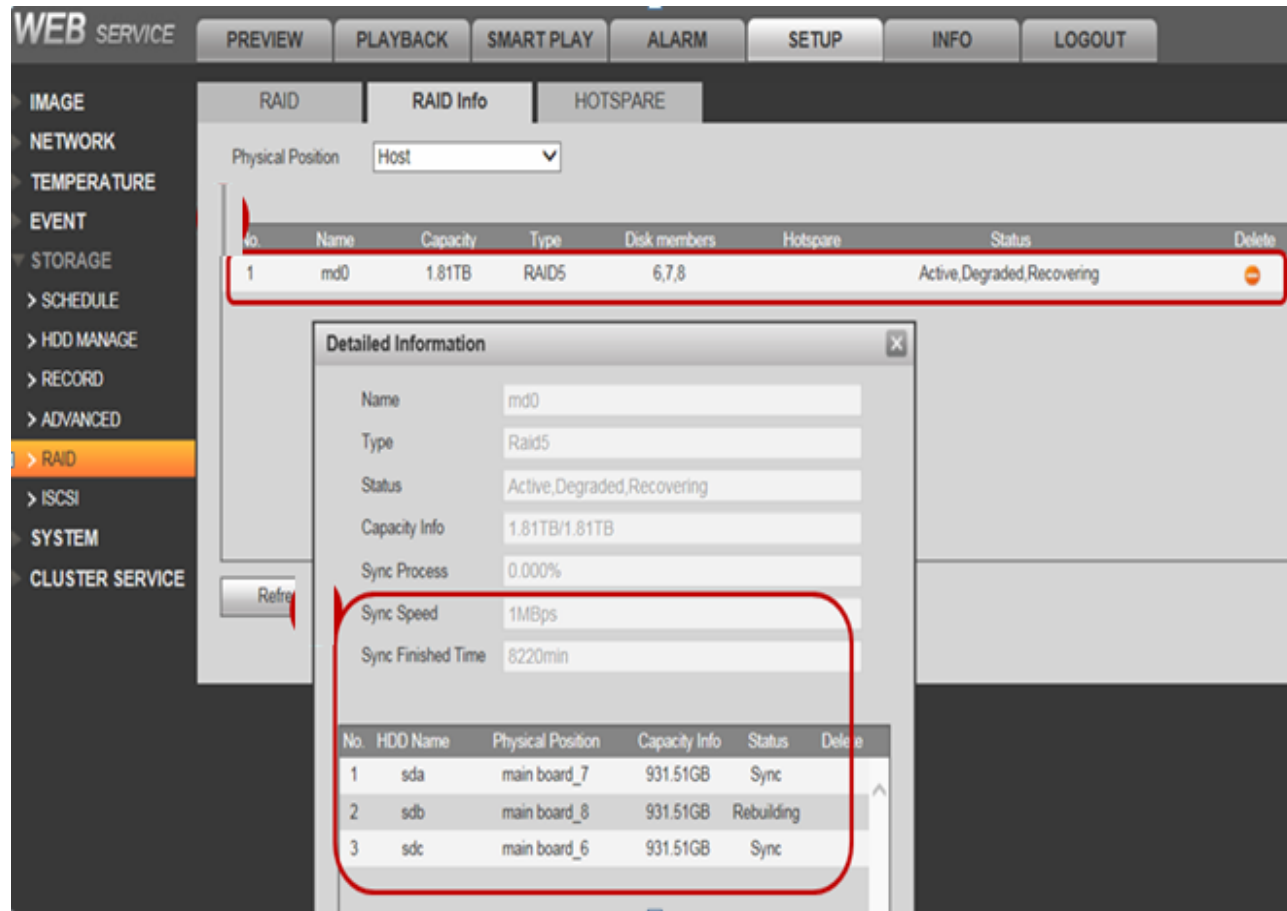
- ① Go to Hot spare interface. Check edit button.
- ① You can set the disk to global hot spare disk or local spare disk. Click ok.

Raid5 Status



Active: RAID normal
Inactive: RAID cannot recovery
Degraded: RAID degraded, just drop one disk.
Recovering: RAID data is syncing.

Recovering Status-RAID5



The screenshot displays the RAID configuration page in the Dahua WEB SERVICE. The RAID 1 (md0) is highlighted with a red box, showing its status as 'Active,Degraded,Recovering'. The 'Detailed Information' dialog box is open, showing the RAID configuration details, including the sync process status (0.000%) and sync speed (1MBps). A secondary table at the bottom of the dialog shows the status of individual HDDs: sda (Sync), sdb (Rebuilding), and sdc (Sync).

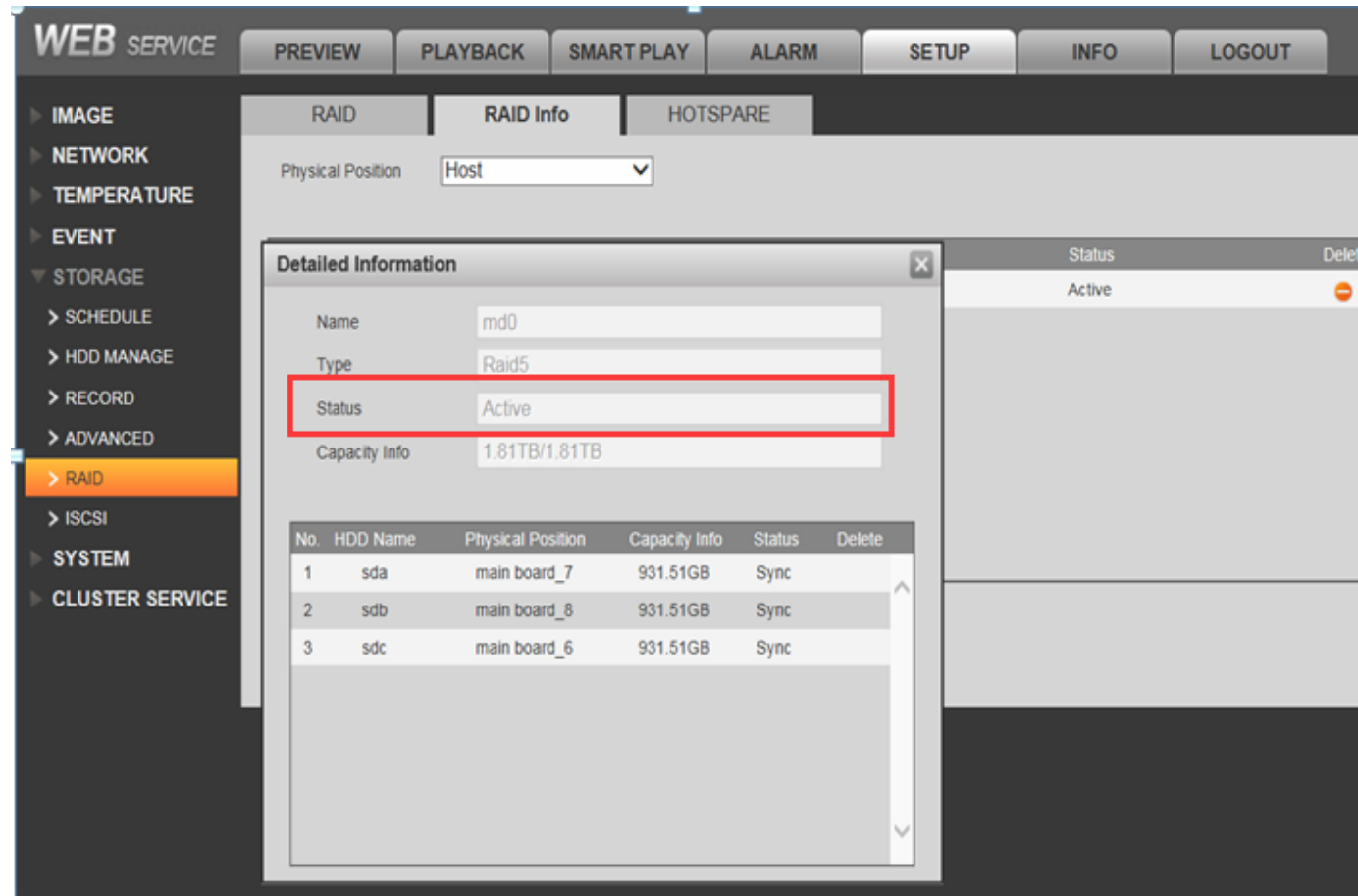
No.	Name	Capacity	Type	Disk members	Hotspare	Status	Delete
1	md0	1.81TB	RAID5	6,7,8		Active,Degraded,Recovering	⊘

No.	HDD Name	Physical Position	Capacity Info	Status	Delete
1	sda	main board_7	931.51GB	Sync	
2	sdb	main board_8	931.51GB	Rebuilding	
3	sdc	main board_6	931.51GB	Sync	

1. After creating raid, the data needs strip to sync and the status is recovering.

2. When sync finished, one disk dropped and the status changed from active to recovering. If no recording, the sync speed is max 30Mbps.

Active Status-RAID5



The screenshot shows the 'WEB SERVICE' interface with the 'RAID Info' tab selected. A 'Detailed Information' window is open, displaying the following details for RAID5 md0:

- Name: md0
- Type: Raid5
- Status: Active (highlighted with a red box)
- Capacity Info: 1.81TB/1.81TB

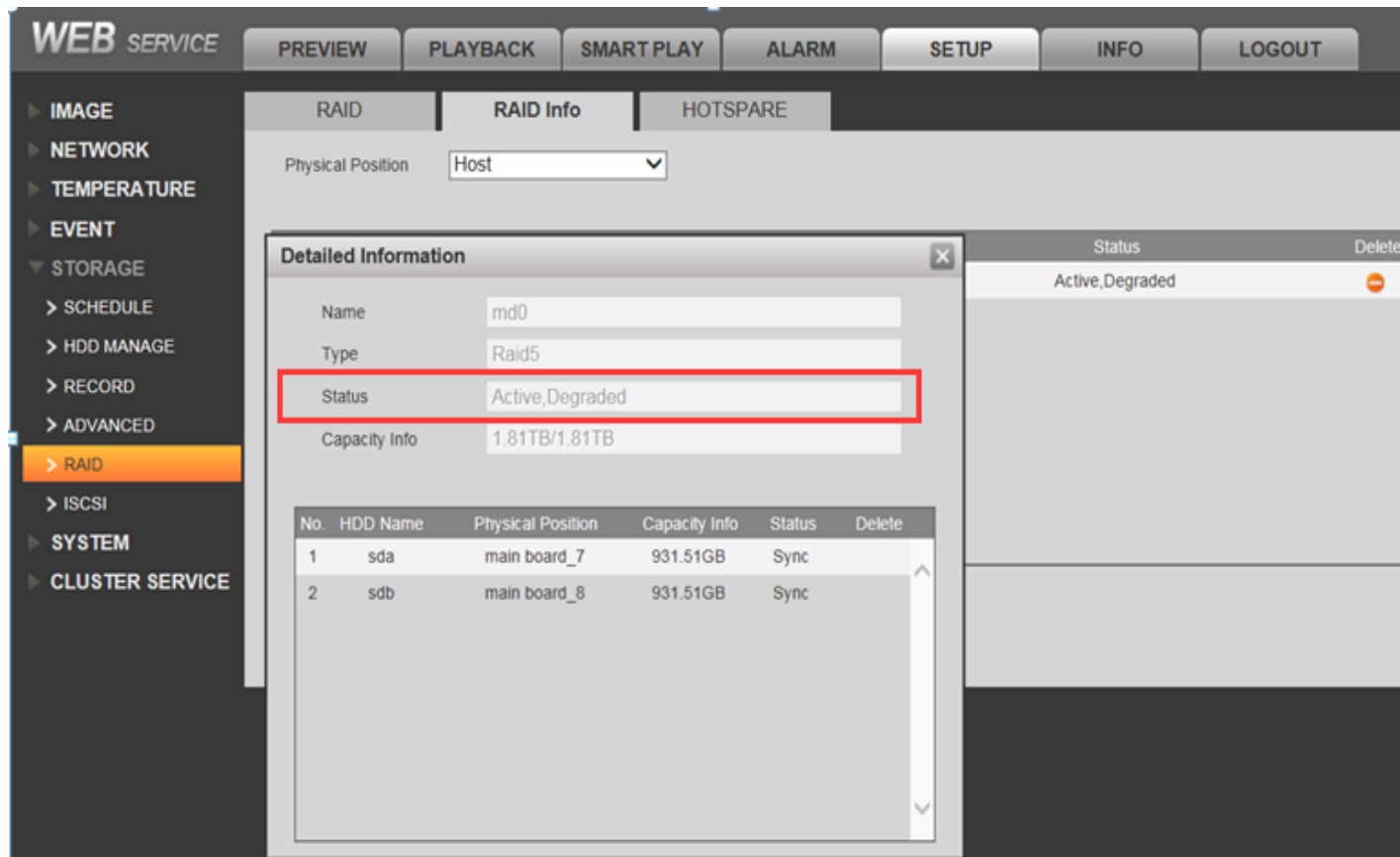
Below the detailed information is a table listing the constituent HDDs:

No.	HDD Name	Physical Position	Capacity Info	Status	Delete
1	sda	main board_7	931.51GB	Sync	
2	sdb	main board_8	931.51GB	Sync	
3	sdc	main board_6	931.51GB	Sync	

On the right side of the interface, a 'Status' section shows 'Active' with a minus sign icon, and a 'Delete' button is visible.

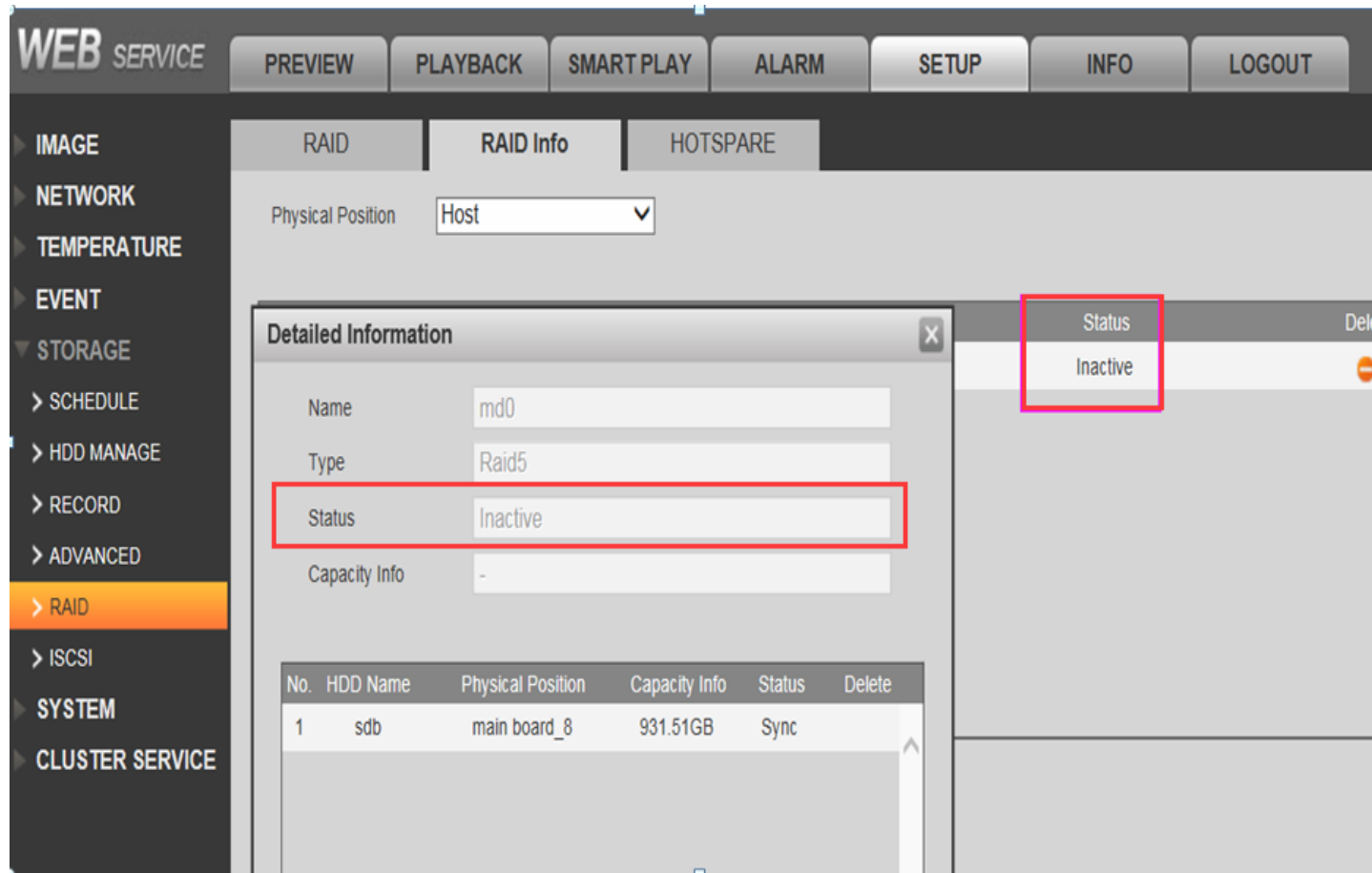
After finish recovering raid, the status change into active. This is normal raid status.

Degraded Status-RAID5



After 3 hard disks sync finished and turn into active status, if drop one hard disk, the status change into degraded. But it still can read and write. This is raid 5 protection. If you set global or local hot spare, it will replace broken one to work.

Inactive Status-RAID5



The screenshot shows the 'WEB SERVICE' interface for RAID configuration. The 'RAID Info' tab is selected, and the 'Physical Position' is set to 'Host'. A 'Detailed Information' window is open, showing the following details:

Name	md0
Type	Raid5
Status	Inactive
Capacity Info	-

Below the detailed information is a table listing the RAID components:

No.	HDD Name	Physical Position	Capacity Info	Status	Delete
1	sdb	main board_8	931.51GB	Sync	

The 'Status' field in the detailed information window and the 'Status' column in the table are highlighted with red boxes.

when raid turn into degraded status and drop one more hard disk, the status will change into inactive. This means the raid broken and it cannot recovery data even you replace well hard disk. Only format and recreate after copy hdd video data to other storage. .

RAID5 Recommend Combination

Disk number	Recommend group	Disk number	Recommend group	Disk number	Recommend group
3	3	11	5 x 2 + (1)	19	9 x 2 + (1)
4	3 + (1)	12	5 x 2 + 1 + (1)	20	9 + 5 x 2 + (1)
5	5	13	9 + 3 + (1)	21	5 x 4 + (1)
6	5 + (1)	14	5 x 2 + 3 + (1)	22	9 x 2 + 3 + (1)
7	5 + 1 + (1)	15	5 x 3	23	9 x 2 + 5
8	5 + 3	16	5 x 3 + (1)	24	9 x 2 + 5 + (1)
9	5 + 3 + (1)	17	5 x 3 + 1 + (1)	3 – 16 usage in priority 17 – 24 stable in priority ensure one global hot spare disk	
10	5 x 2	18	9 + 5 + 3 + (1)		

Note:

1. Must ensure one hot spare disk.
2. RAID must choose SAS hard disk. Not SATA. SATA is easy to broken.