IBM Storage Manager Workshop

DS4000 Storage Manager Demo

Version 10.10

Episode2: Storage Advance feature

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1. Overview

1.1 Introduction

Welcome to the IBM Storage Manager Workshop with DS4000 Storage Manager Demo.

The audience for this demo guide are technically-oriented members of the IBM community who wish to understand more about how the DS4000 Storage Manager works. This guide is also for IBM members wishing to use this tool to demonstrate capabilities of the DS4000 Storage Manager.

You can refer to the IBM DS4000 Storage Demo guide for assistance.

1.2 Goal of workshop

This workshop uses the DS4000 Storage Manager Demo tool that can be a powerful tool in demonstrating how quickly and easily of IBM Disk storage. This workshop fulfils these goals:

- To familiarize you with the workings of the DS4000 Storage Manager Demo software.
- Students can learn and manage all DS4000 series
    - DS4800
    - DS4700
    - DS4200
- Manager functions, providing tutorials for setting up and using both basic and premium features.
- To enable you to put together a demo of the DS4000 Storage Manager product for your prospects that is fulfils needs and storage requirements.
- After completed workshop, students can easily managed the IBM DS4000 series storage and expand their knowledge with in another storage products and solutions.

1.3 Labs Overview

This workshop separates in two episodes,

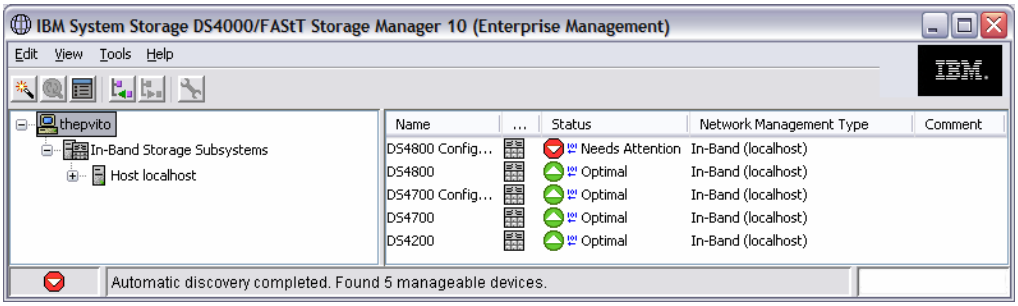
- Episode 1 : Basic Storage Configuration
- Episode 2 : Storage Advance Feature

2. LAB 4: Use Dynamic Array Expansion function

2.1 Tasks

2.1.1 Task 1: Create Array

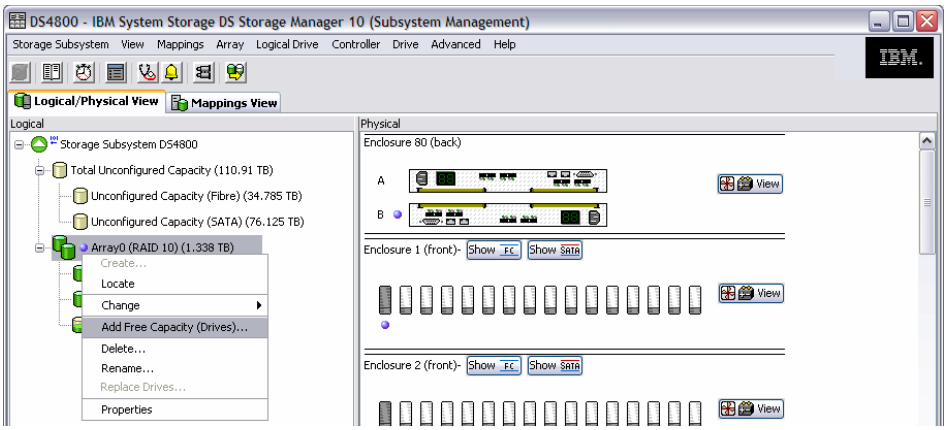
- Open program IBM Storage Manager by double click at *"**Start_demo.bat**"* You will now see the **Enterprise Management windows**



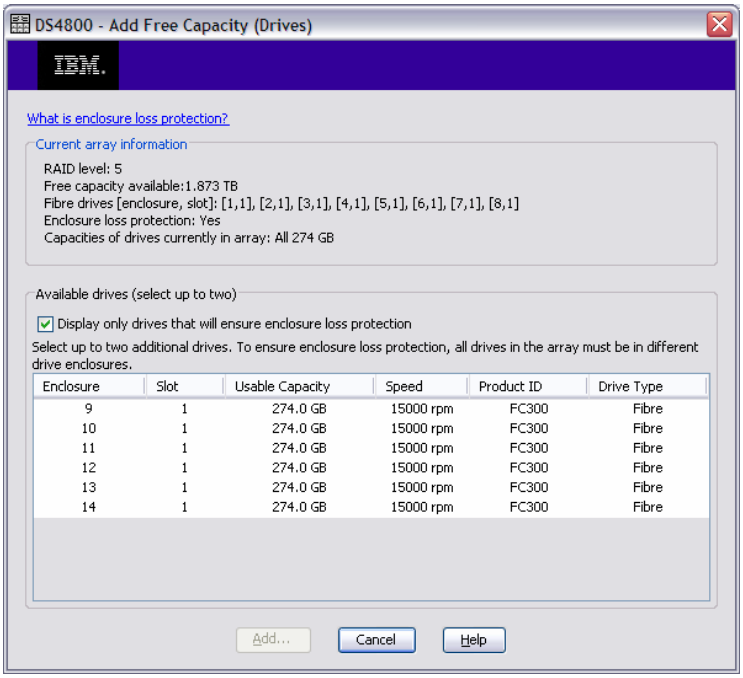
- If Status of all DSxxxx didn't show "Optimal". Delete all and Click at **> Tools > Automatic Discovery**
- Create Array1 with RAID 5 (capacity 1.8TB)
  - **Disk FC 8 units**
  - **Name "Array1"**

2.1.2 Task 2: Dynamic Array Expansion (DAE), Add drives.

- Add more **2 disks into Array1** ;
  - Right click on **Array1**
  - Select **> Add Free Capacity (Drives)**



- Select **> disk on Enclosure 9 Slot 1 and disk on Enclosure 10 Slot 1** and then click **> Add**



- How many total disk capacity on Array1? _____

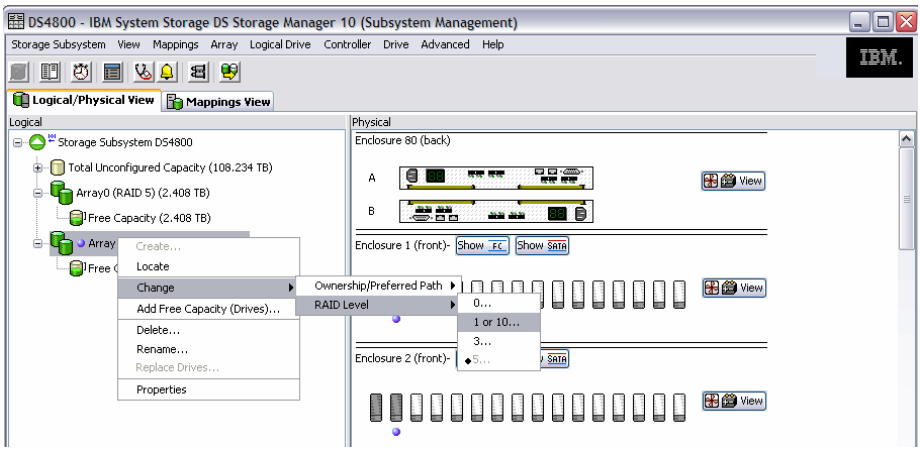
- How many free space disks on Array1? _____

3. LAB 5: Use Dynamic RAID Level Migration

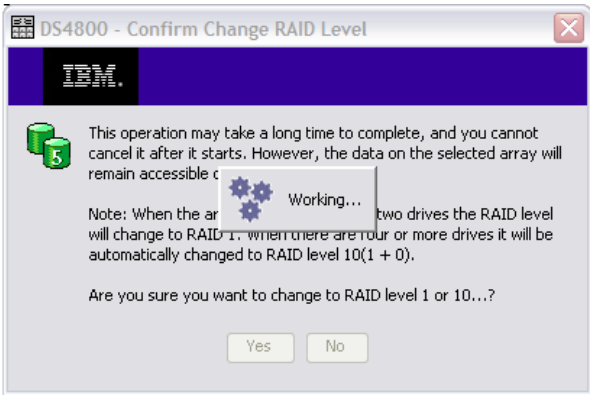
3.1 Tasks

3.1.1 Task 1: Dynamic RAID Level Migration (DRM); Change RAID

- Change Array1 from **RAID 5 to RAID10**
  - Right click on **Array1**
  - Select Change **> RAID Level**



  - Select **RAID10** and click **> Yes**



(Note: If program error, try to close and open DS4800 again.)

- How many total disk capacity on Array1 (RAID5)? _____

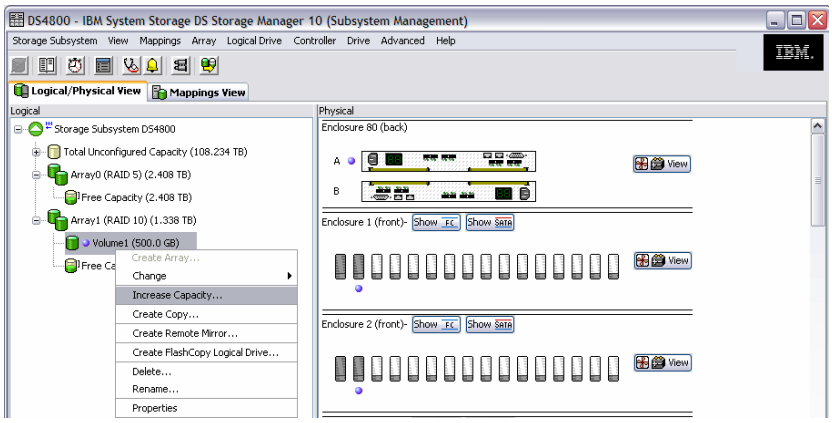
- How many free space disks on Array1 (RAID5)? _____

4. LAB 6: Use Dynamic Volume Expansion function

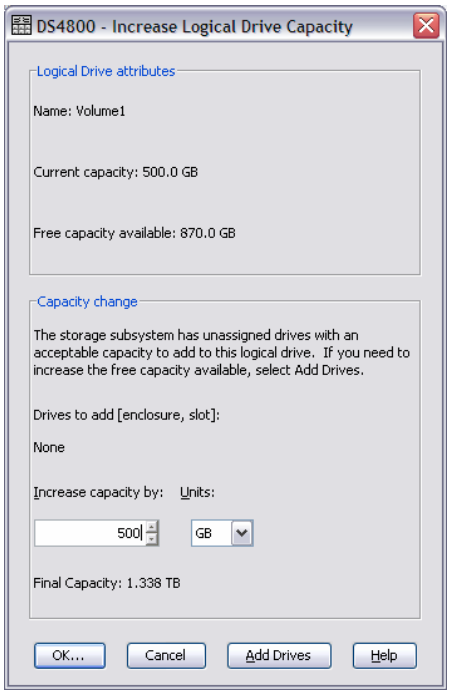
4.1 Tasks

4.1.1 Task 1: Dynamic Volume Expansion (DVE); Expand Volume

- Create **LUNs on Array1**
  - **LUNs capacity 500GB**
  - **LUNs name " Volume1"**
- Change LUNs capacity to 1TB
  - Right click on **Volume1** select **> Increase capacity**



- Type add capacity **500 GB** and click **> OK**

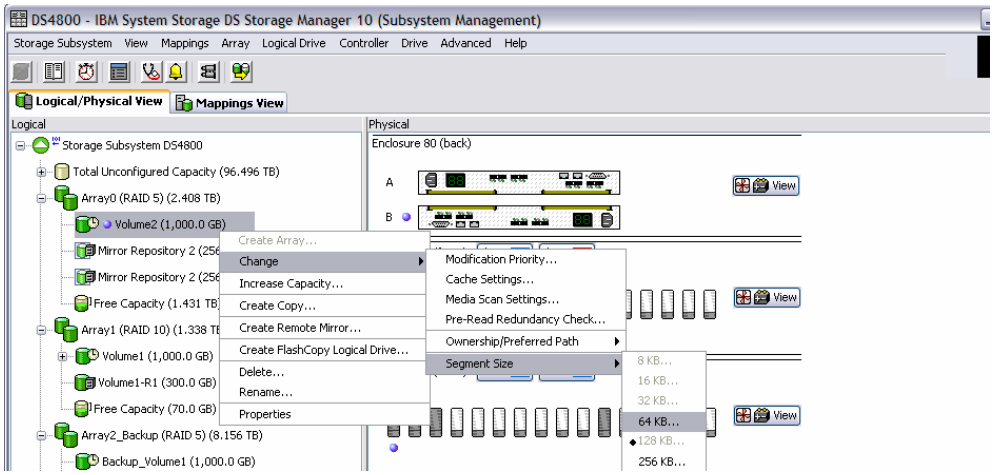


5. LAB 8: Use Dynamic Segment Size function

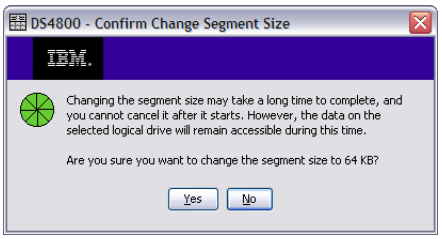
5.1 Tasks

5.1.1 Task 1: Dynamic Segment Size (DSS); Change block size

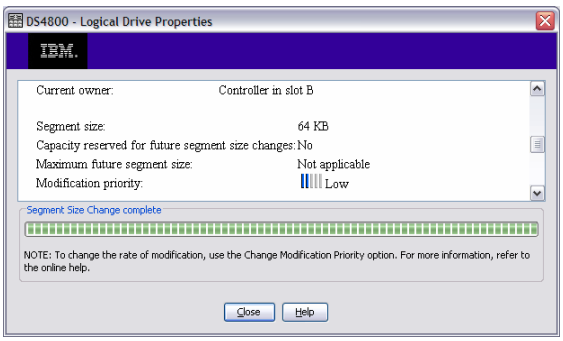
- From Volume1 that we create block size = **128KB** (We can step up to 256KB or step down 64KB)
- Right click on “Volume1” select **> Change > Segment Size > 64KB**



- Click **> Yes**



- Right click on Volume1 and select **> Properties** look on Segment size is changing to **64KB**

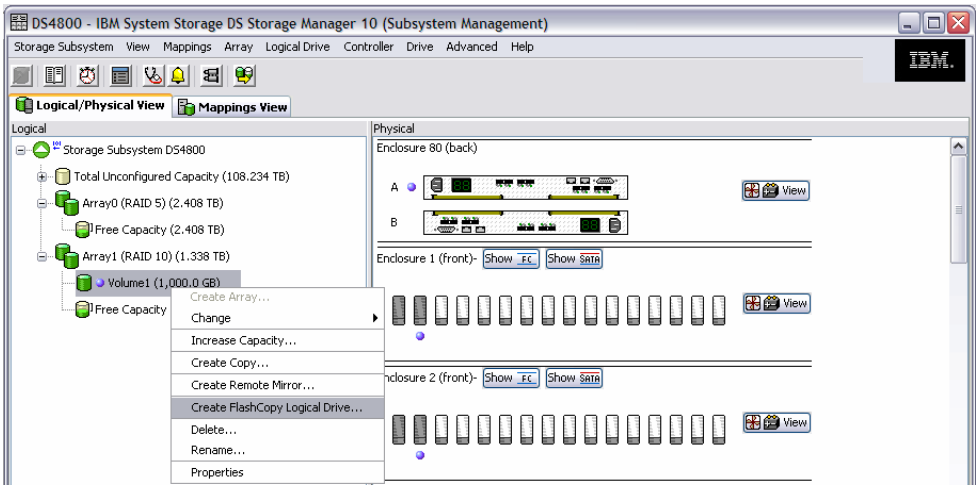


6. LAB 9: Use FlashCopy function

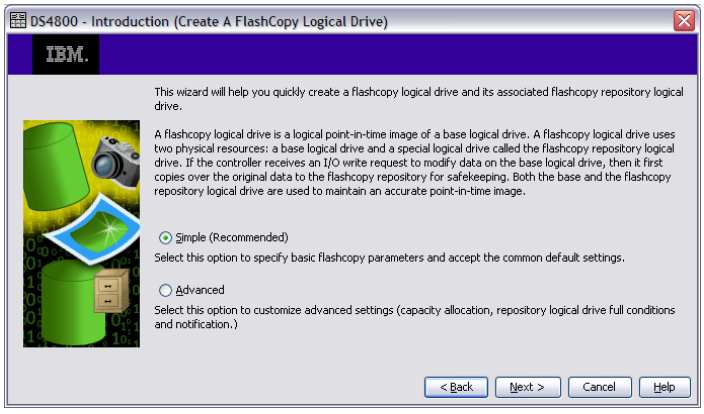
6.1 Tasks

6.1.1 Task 1: Use Flashcopy function

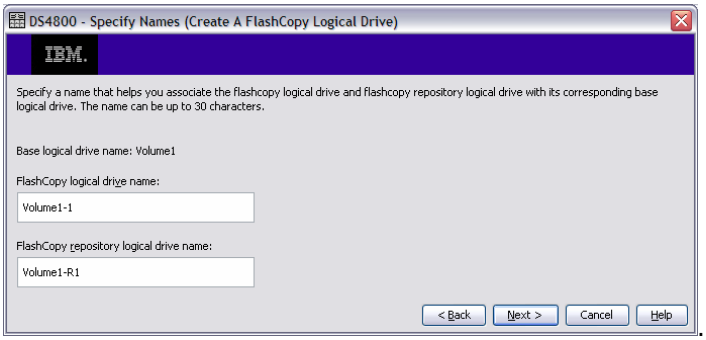
- Highlight on **Volume1**
- Right click and select **> Create FlashCopy Logical Drive…**



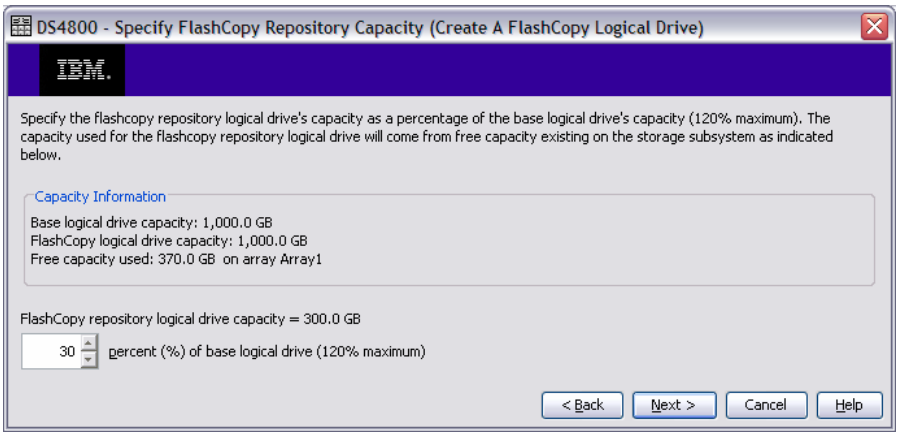
- Select > **Simple** and Click **> Next**



- FlashCopy logical drive name : **Volume1-1**
- FlashCopy repository logical drive name : **Volume1-R1**
- Click **> Next**



- Select **repository 30%**. Then click **> Next**



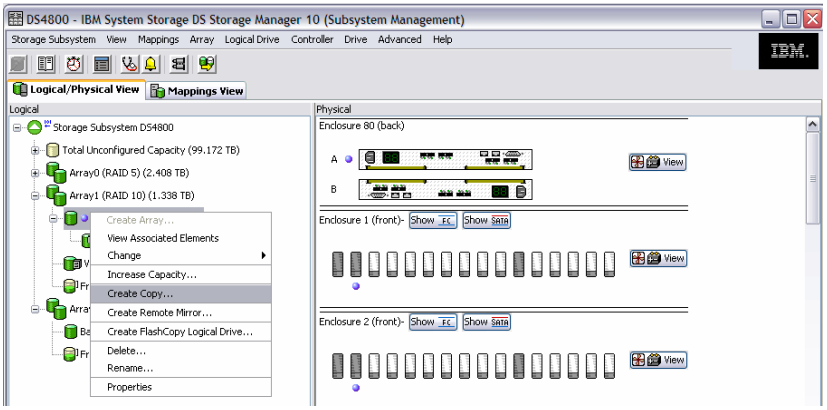
- Select **> Finish**

7. LAB 10: Use Volume Copy function

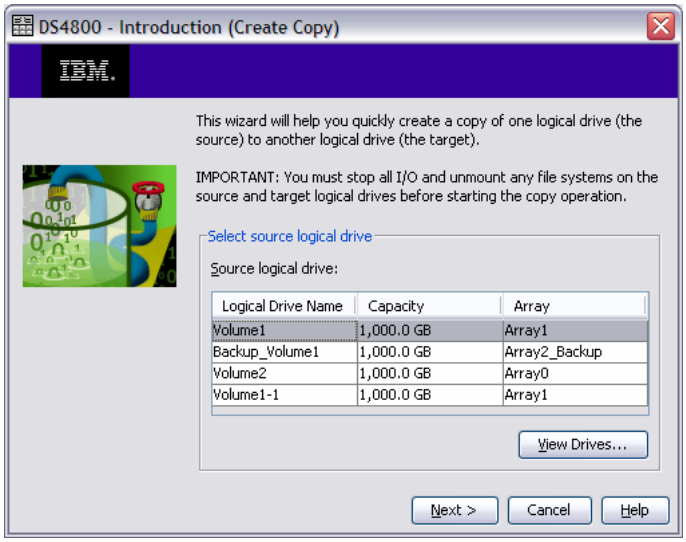
7.1 Tasks

7.1.1 Task 1: Use VolumeCopy function

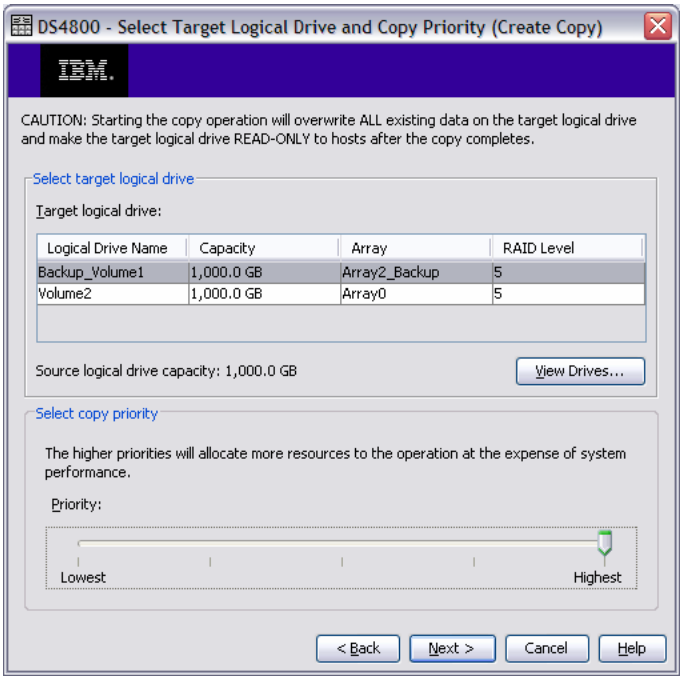
- Create Array on **SATA drives**
  - **Array name "Array2_Backup"**
  - **RAID5, Disk 10 units with capacity 8.1TB**
- Create Logical drives (LUN)
  - **LUN name "Backup_Volume1"**
  - **Type Database and for OS "AIX"**
- Right click on Volume1, select **> Create copy**



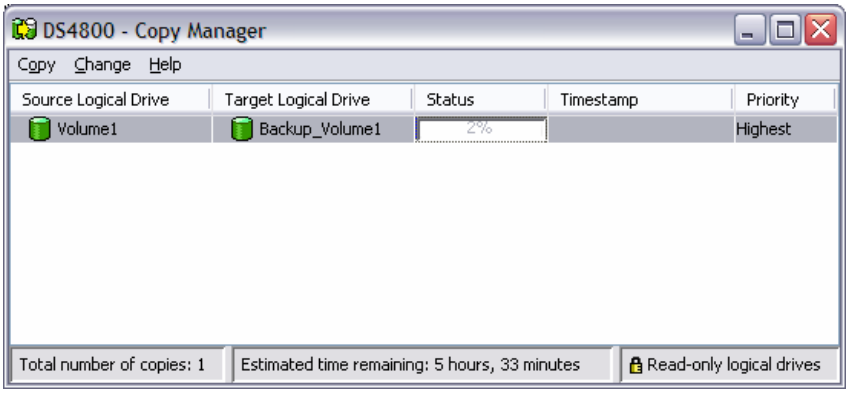
- Highlight on **"Volume1"** and select **> Next**



- Select on **“Backup_Volume1”** , priority **> Highest**
- Click **> Next**



- Select on **“Backup_Volume1”** , priority **> Highest**
- Click **> Next**
- To view status, right click on **Backup_Volume1** select **> Copy Manager**
  - You will see the Copy Status.

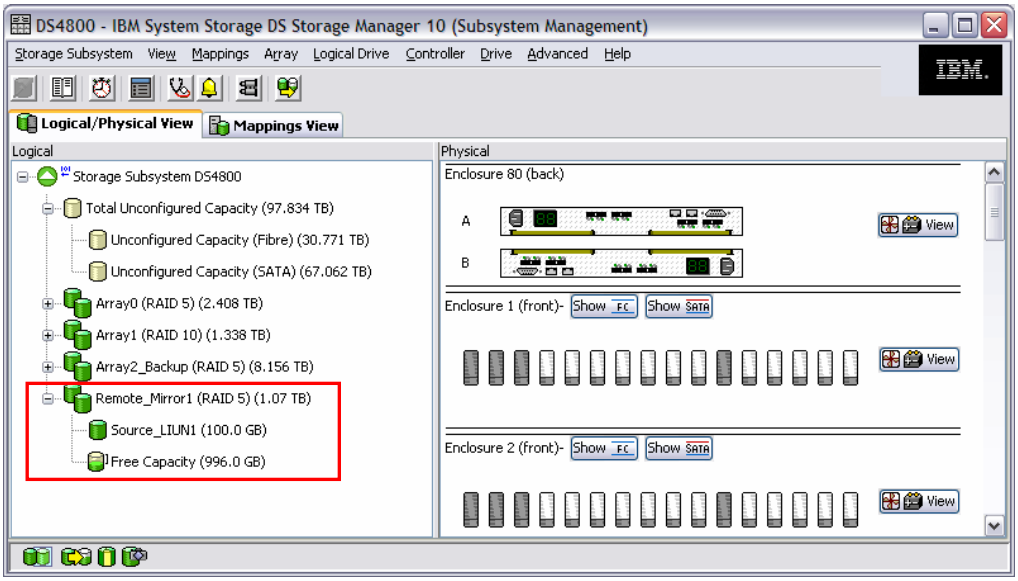


8. LAB 11: Use Remote Mirror function

8.1 Tasks

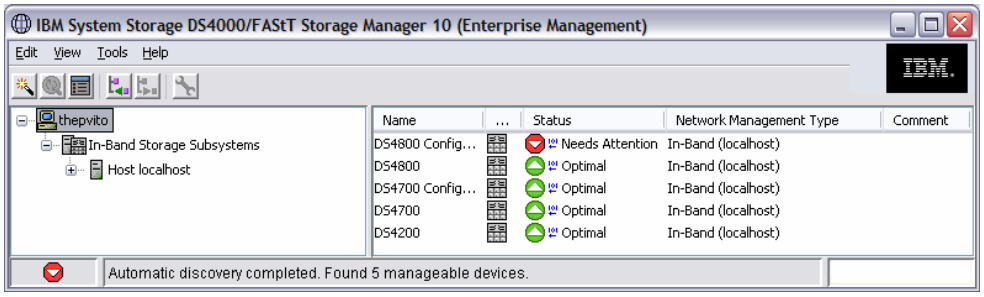
8.1.1 Task 1 : Set remote mirror source (DS4800)

- At DS4800, create new array for test remote mirror function.
  - **Use FC disk 5 units, RAID5**
  - **Array name "Remote_Mirror1"**
- Create new Logical Volume(LUN) on this array
  - **LUN name "Source_LUN1"**
  - Capacity **100GB,** Host **"AIX"**

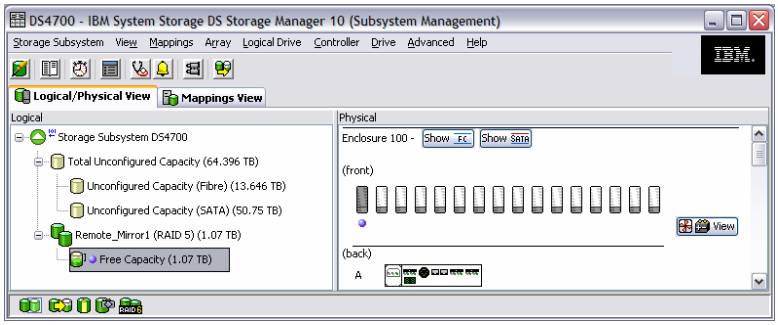


8.1.2 Task 2 : Set remote mirror target (DS4700)

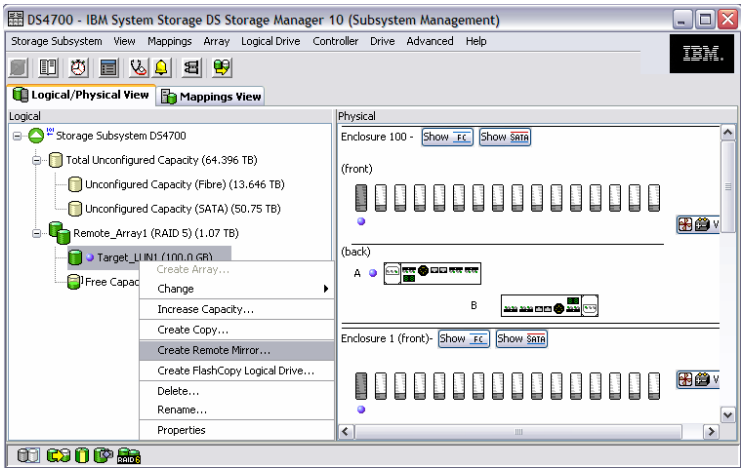
- At Enterprise Management **Double click on DS4700**



- Create Array on DS4700 **(Same capacity with DS4800)**
  - **Use FC disk 5 units, RAID5**
  - **Array name "Remote_Mirror1"**
- Create new Logical Volume(LUN) on this array
  - LUN name **"Target_LUN1"**
  - Capacity **100GB,** Host **"AIX"**

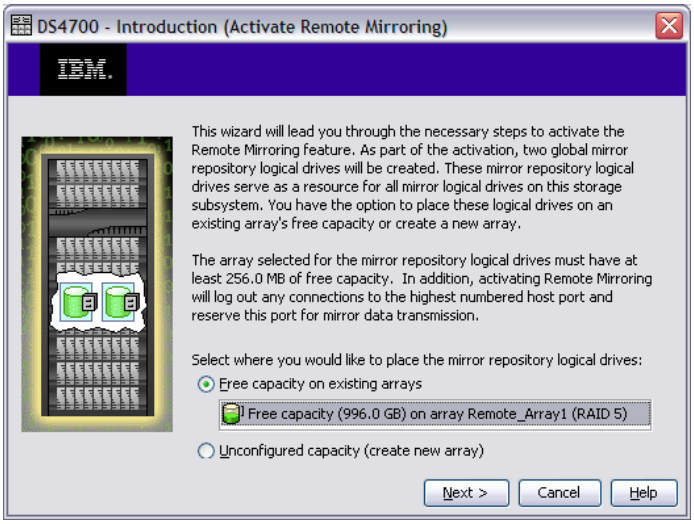


- Right click on LUN "Target_LUN1" and click > **Create remote mirror**

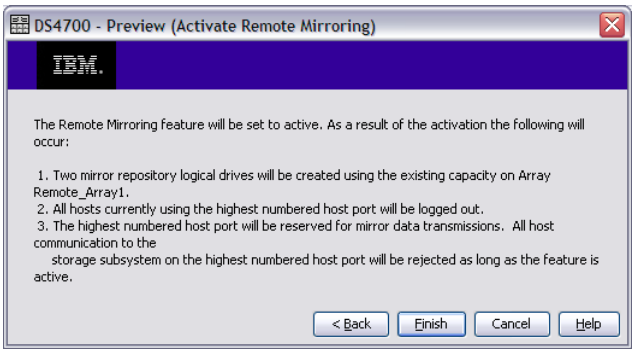


- Select > **Activate**

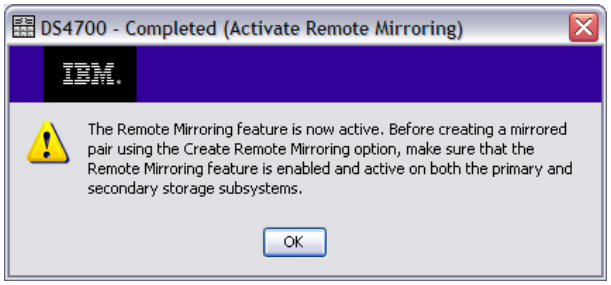
- Select > **Free capacity on existing arrays**, click **> Next**



- Select > **Finish**

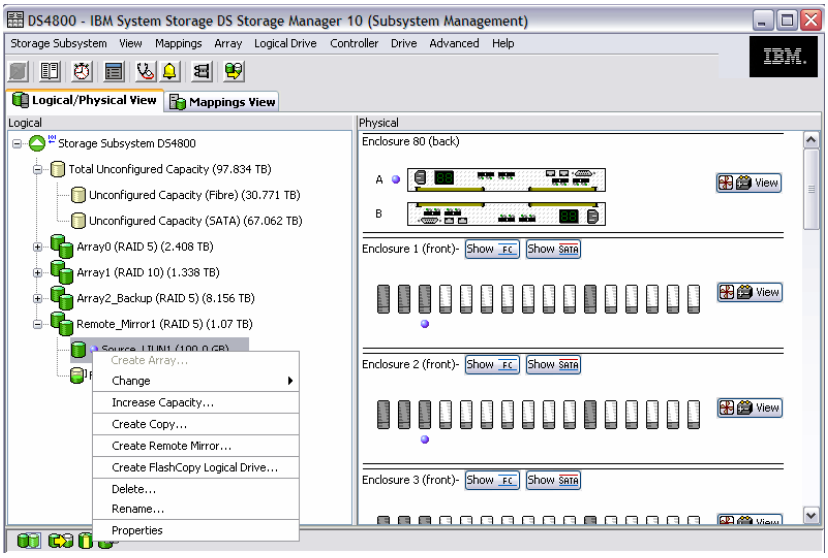


You will see this screen



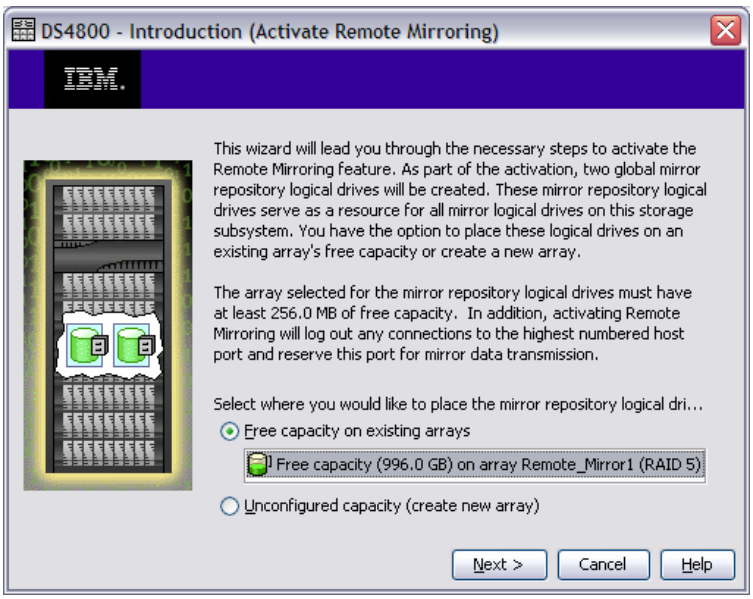
8.1.3 Task 3 : Start remote mirror function between DS4800 and DS4700

- **Back to DS4800**
- Right click on LUN “Source_LUN1” and click > **Create remote mirror**

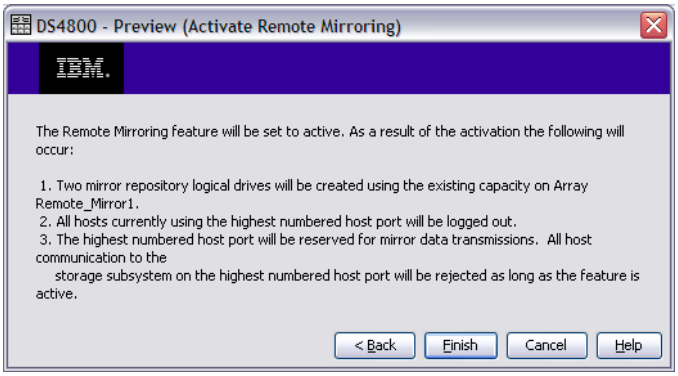


- Select > **Activate**

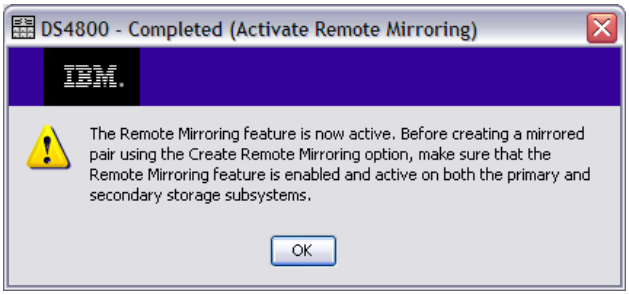
- Select > **Free capacity on existing arrays**, click **> Next**



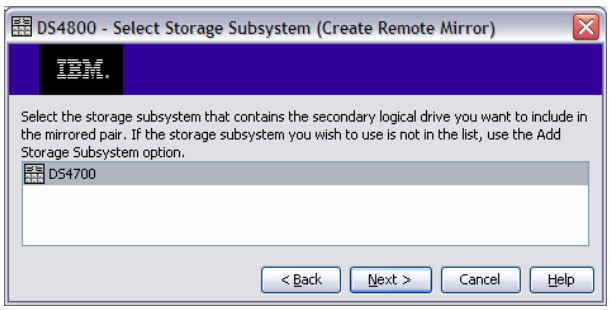
- Select > **Finish**



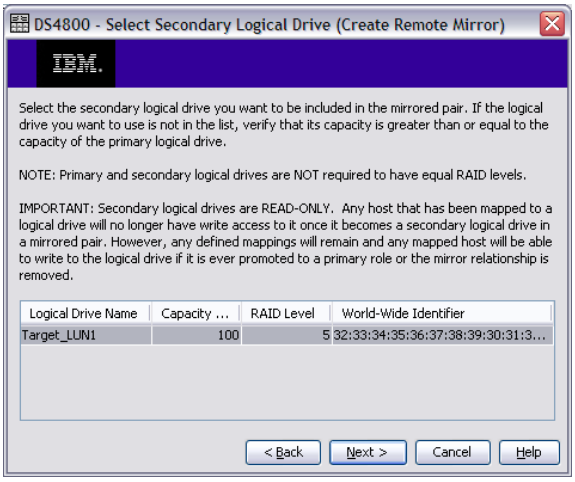
You will see this screen



- Right click on LUN “Source_LUN1” and click > **Create remote mirror**
- Click **> Next**

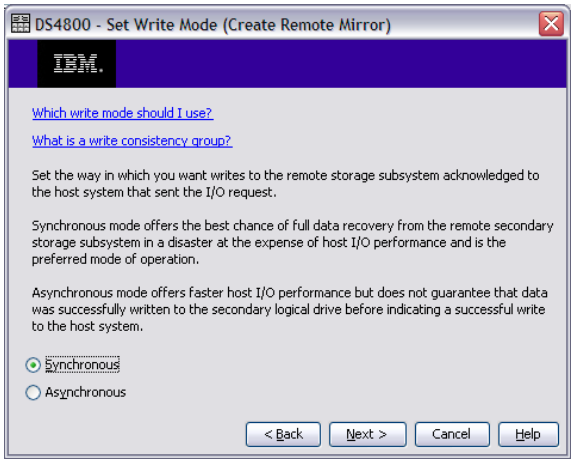


- Select **> Target_LUN1** and then click **> Next**

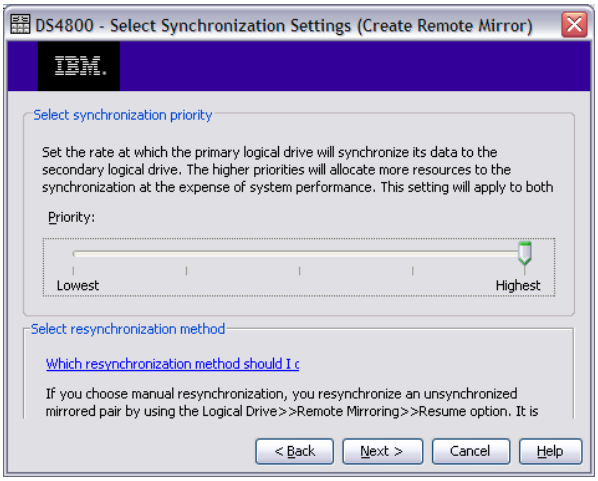


- Select **> Synchronous** and then click **> Next**

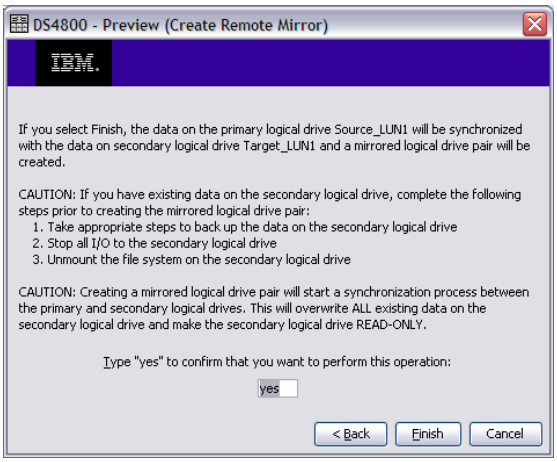
(Remote mirror can select Synchronous and Asynchronous mirror)



- Select priority **> Highest** and click **> Next**

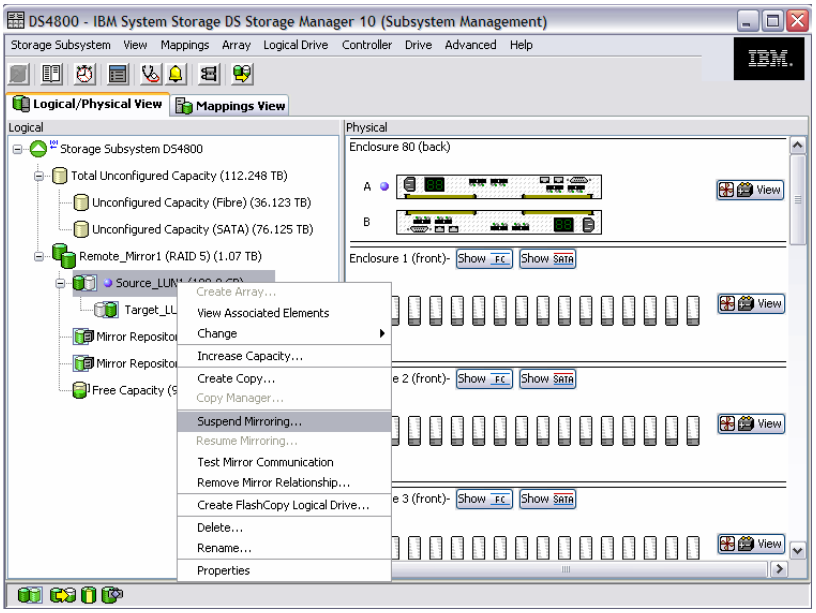


- Type **> Yes** and select **> Finish**

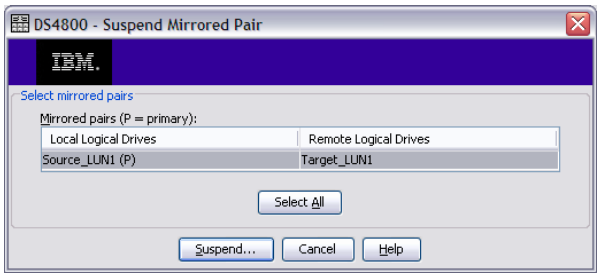


8.1.4 Task 4 : Suspend remote mirror

- Right click on **Source_LUN1** select **> Suspend Mirroring**



- Highlight on **Source_LUN1** Select **> Suspend…**



- Type **> yes** and select **> OK**

You can resume mirror and terminate mirror by use command on right click on this volume