**Practical No. 8**

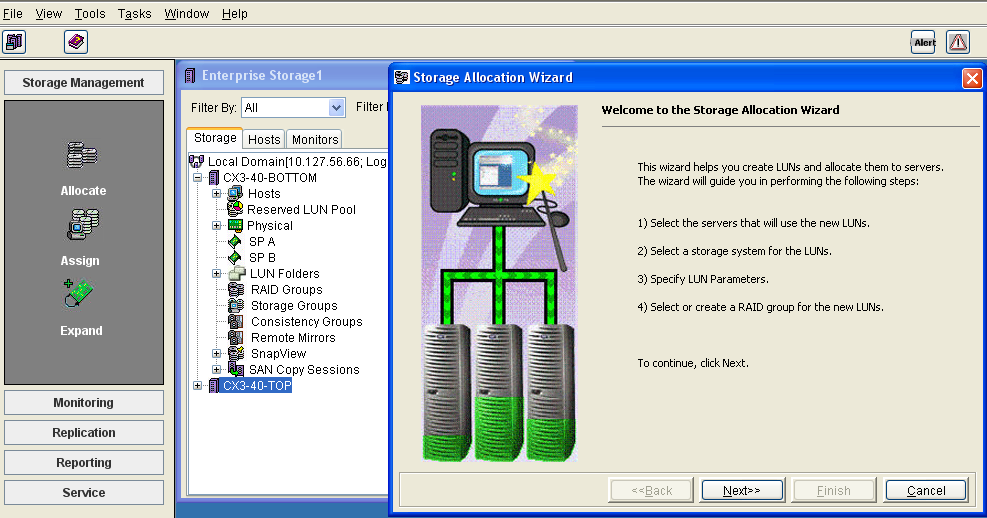
**Aim : EMC Navisphere Simulator Create LUNs**

The EMC simulator is used here to show the process for creating storage and then removing the storage. The simulator does not provide for host logon so consider it a requirement for making the volume available for storage, initialise disk, create volume , format, etc

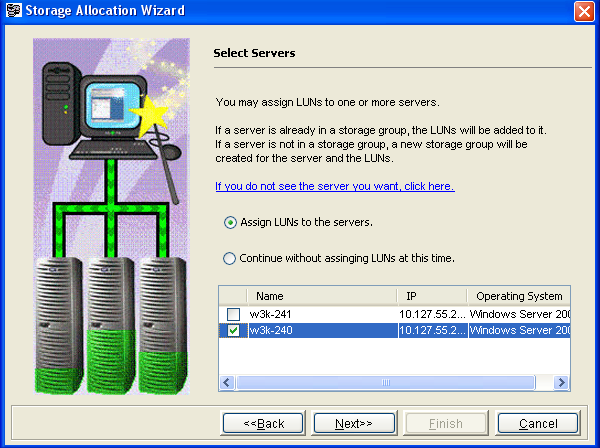
The simulator is for an older system the CX3-40 but the processes are essentially the same.

What is not shown is the connection from the clients perspective. a HBA and HBA Anywhere are required for fibre, ISCSI uses Ethernet.

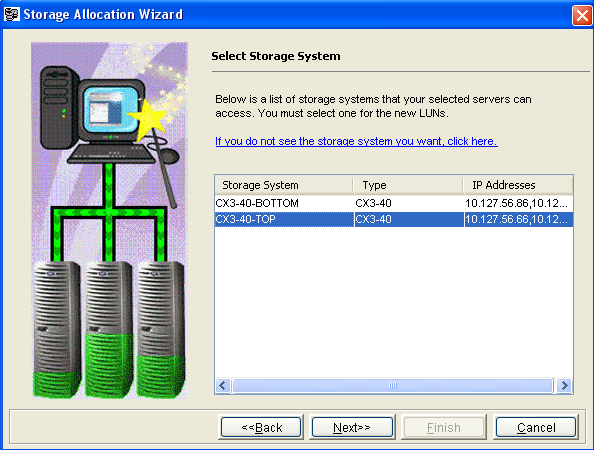
Masking, redundant paths and failover are other aspects of the SAN connectivity not reviewed here.



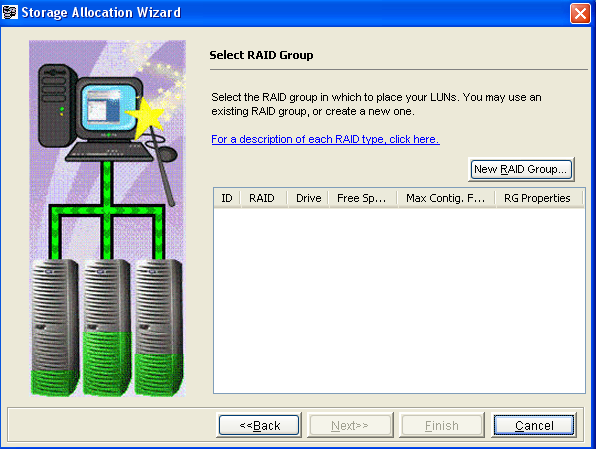
Use the wizard to step through the LUN creation process.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step2-Select-Servers.png)

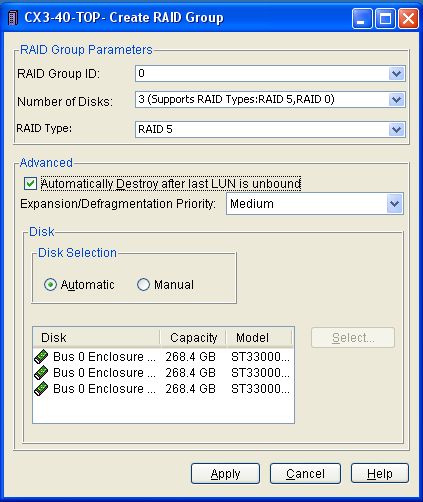
Select the server you want to provide storage for.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step3-select-System.png)

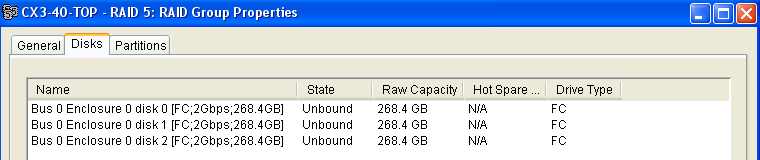
Choose the storage system to host the LUN.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step4-Select-Rais-Group.png)

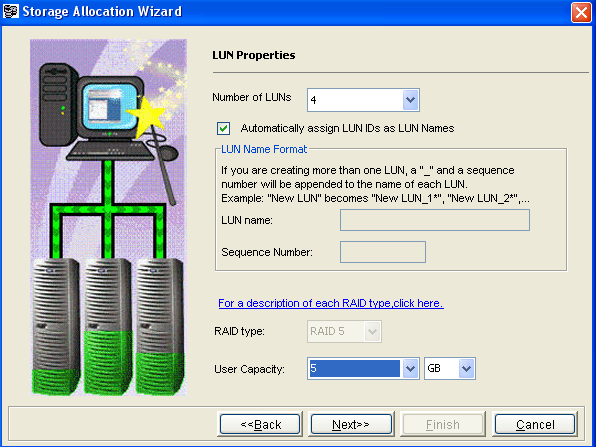
Create a New RAID Group. The process of carving out the disks from those available to create the type of RAID you want. Take into account performance and single/double disk failure, striping etc.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step5-Setup-RAID.png)

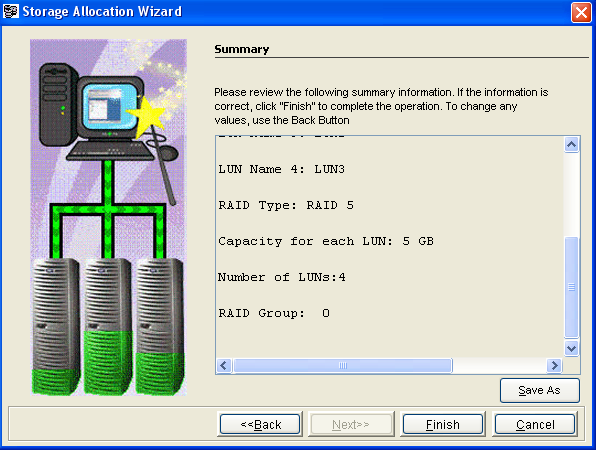
Three disk RAID 5 created

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step7-RAID-Group-Properties.png)

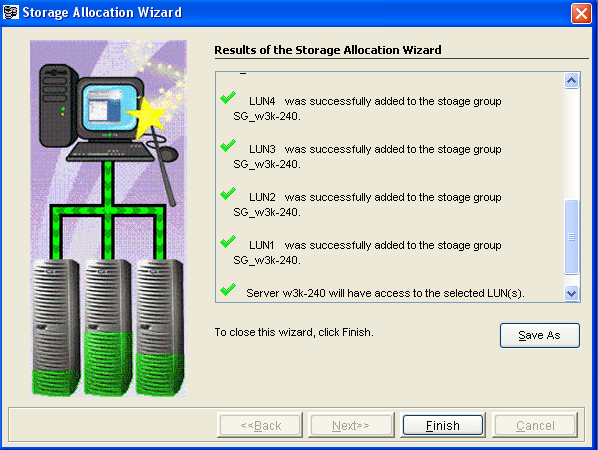
RAID properties review.

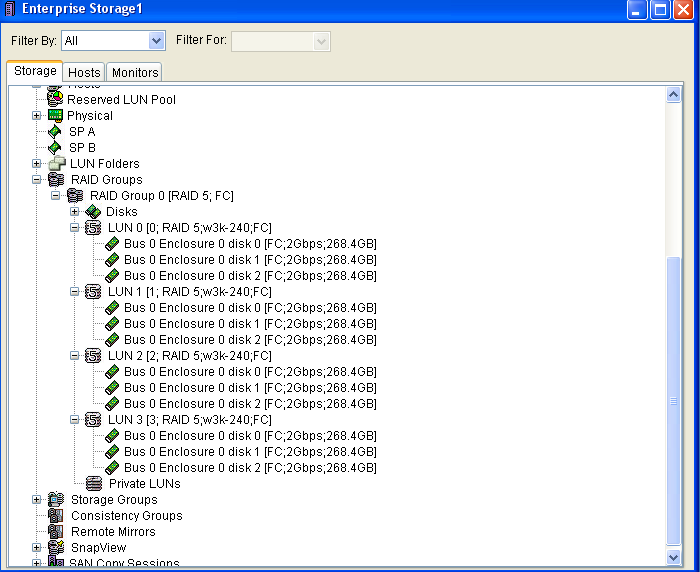
[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step9-Lun-sizing.png)

From this RAID group we are going to provide a segment of the RAID to the server for its use. The full RAID could be far greater in size than that which is required so the LUN (VHD) is an efficient way of using the available storage.

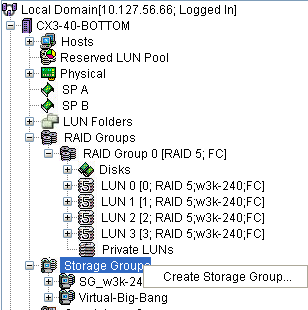
[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step10-Summary.png)

Review: Four LUNs created

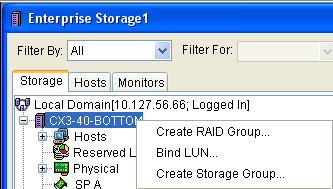
[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step11-Success.png)

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step12-View-LUNS.png)

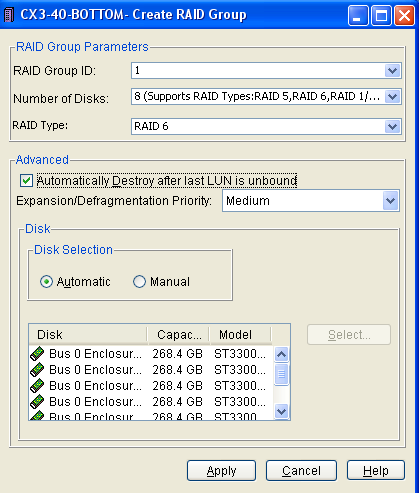
Four LUNs created within the RAID Group.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step13-Manual-Create-Storgae-Group.png)

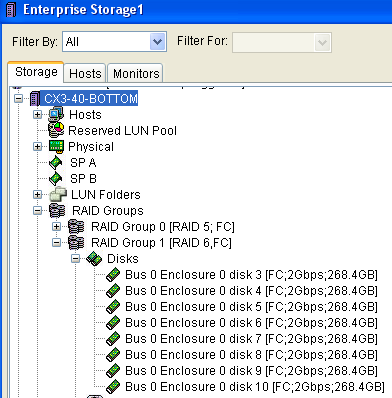
The manual way of creating LUNs. Create a Storage Group: Virtual-Big-Bang created

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step14-Manual-Create-RAID-Group.png)

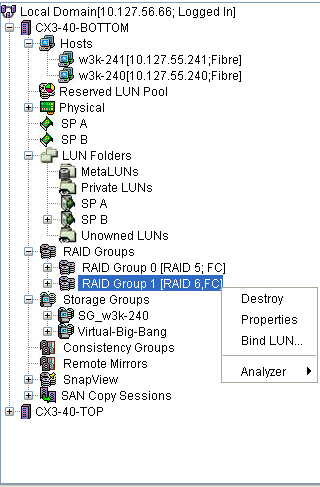
Create the RAID group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step15-Manual-Create-RAID-Group.png)

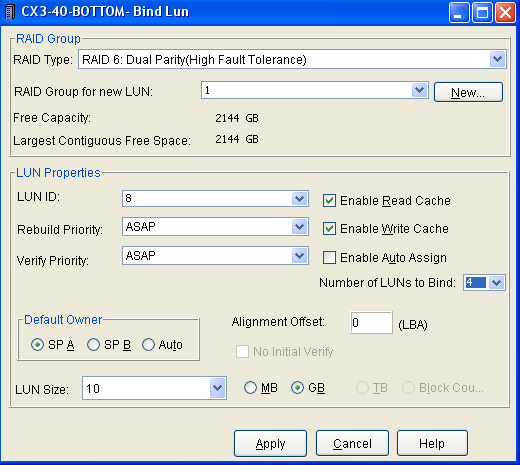
Specify what is required of the RAID: ie RAID 6 chosen comprising 8 disks

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step16-Manual-View-RAID-Group.png)

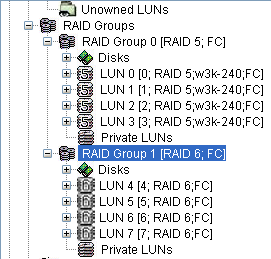
View the RAID Group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step17-Manual-Bind-LUN.png)

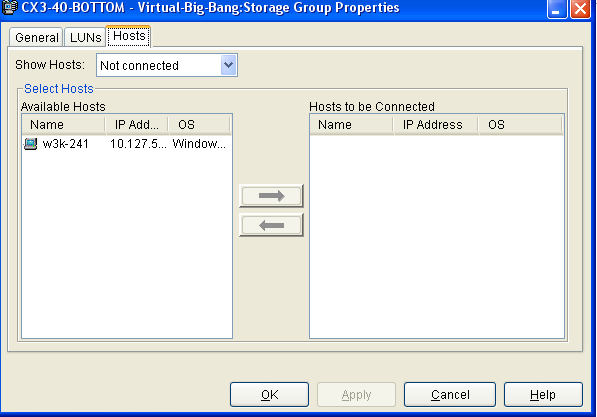
Bind LUNs to the group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step18-Manual-Bind-LUN.png)

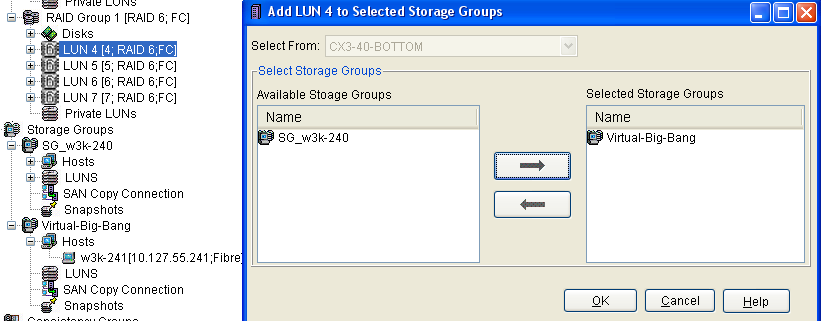
LUNs defined, owned by SP A  (Service Processor A)

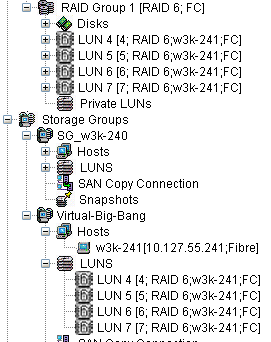
[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step19-Manual-LUNS-Created.png)

LUNs in the RAID group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step20-Add-Host-to-SG.png)

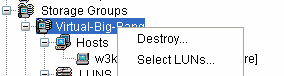
Add a host(s) to the Storage Group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step21-Add-LUN-to-SG.png)

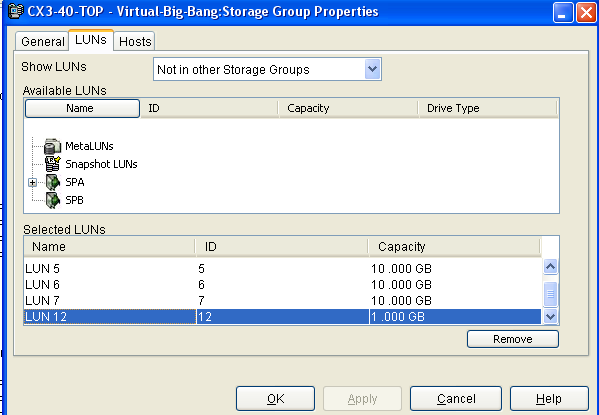
[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step22-Review.png)

AddLUN(s) to the Storage Group

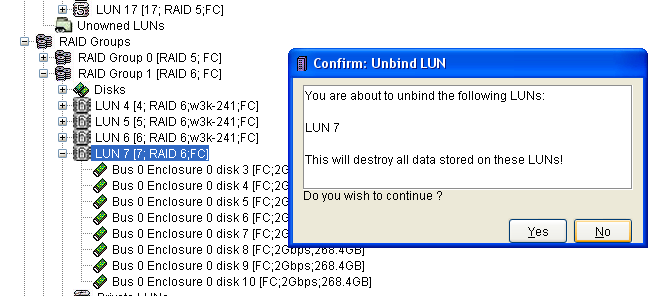
Storage Group Virtual-Big-Bang shown with LUNs and Host(s)

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Right-Click-Storage-Group.png)

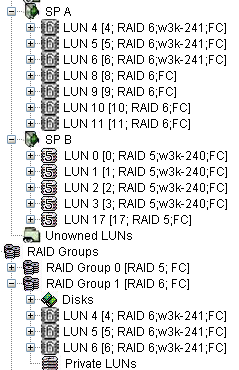
 To remove a LUN, right click the Storage Group and choose Select LUNS

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step28-Remove-LUN-from-SG.png)

To remove a LUN you must first remove it from its Storage Group, choose Select LUN then Remove

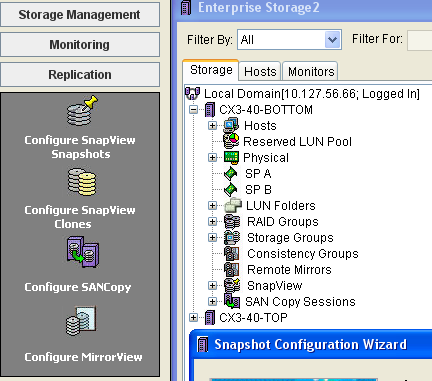
[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Unbound-LUN.png)

The LUN once unbound can be destroyed.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/LUN-no-longer-present.png)

**EMC Navisphere Simulator Snap View**

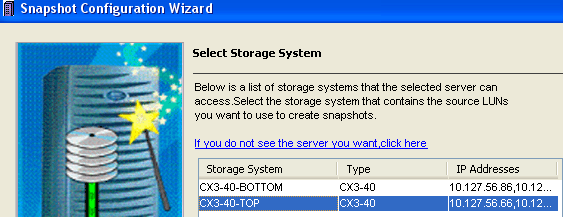
The process below considers the creation of Snapshots on the SAN store. It is a simulator so there may be anomalies.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Snap1-Snap-View-Wizard.png)

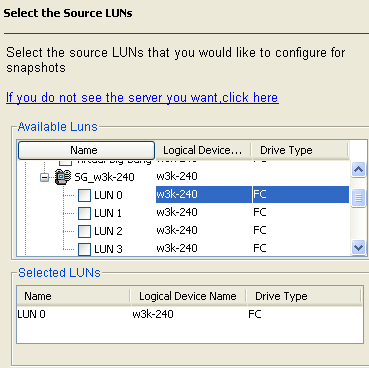
Open the Snapshot wizard

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Snap2-Server.png)

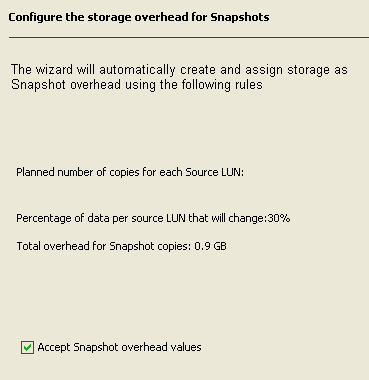
Chose the Server that is to be the source

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Snap3-Store.png)

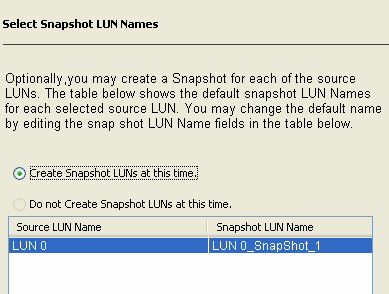
Chose the Storage

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Snap4-select-LUN.png)

Choose the LUN that is to have the Snapshot

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step5-Storage-Overheads.png)

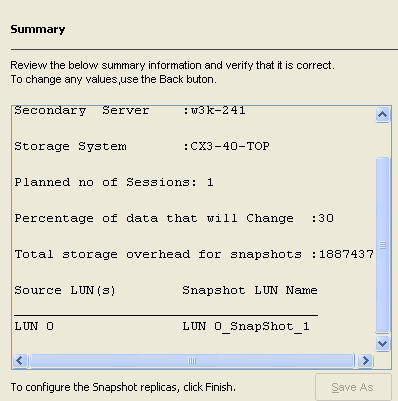
The snapshot rules

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step6-Snapshot-LUN-name.png)

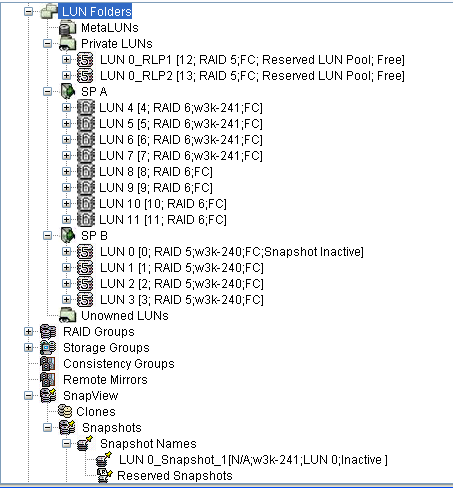
Chose the default

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step7-Assign-Snapshot.png)

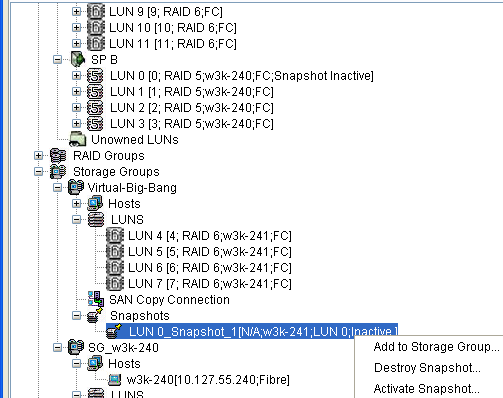
Assign the snapshot

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step8-Summary.png)

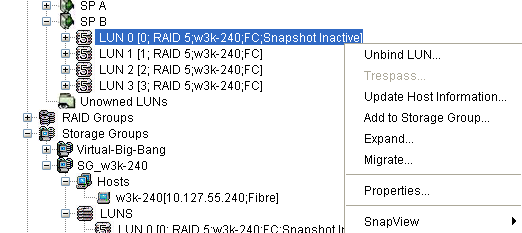
Review

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step9-LUNs-created-by-Snapshot-Wizard.png)

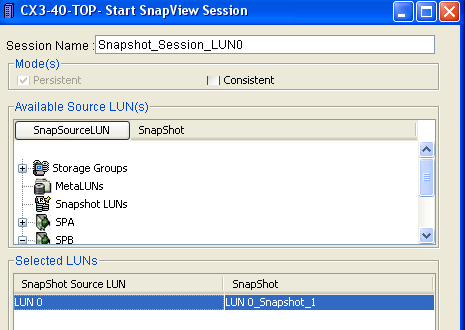
The snapshot process has not started but the build of the store for it is complete.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step10-Activate-Snapshot.png)

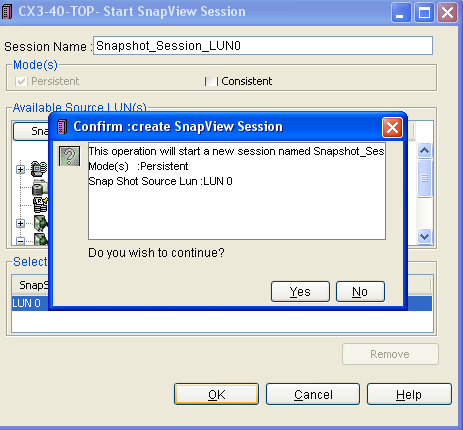
Activate the Snapshot

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step11-Start-Snap-View-Session.png)

Start the Snapshot Session

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step12-Session-Name.png)

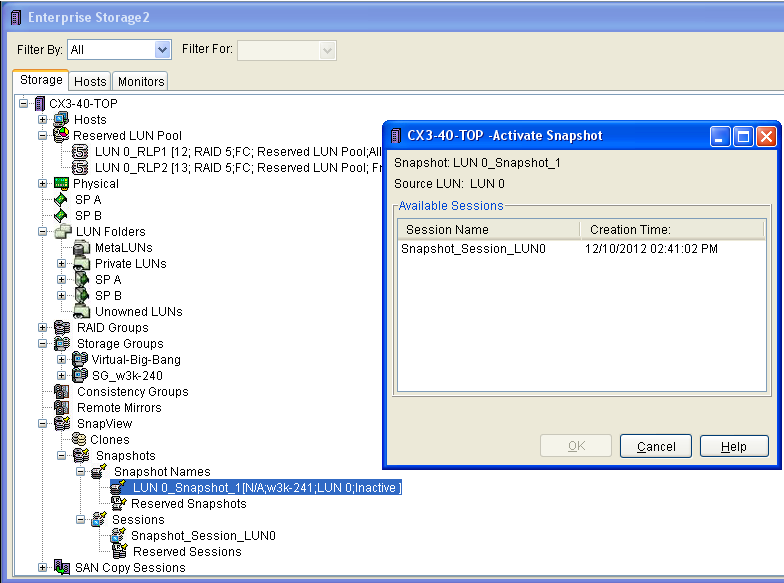
Select the Snapshot Source

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step13-Session-Name.png)

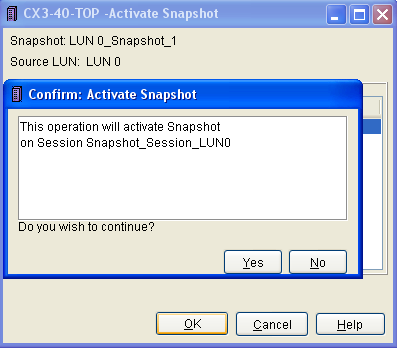
Yes to accept

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step14-Reserved-LUN-changed-to-Allocated.png)

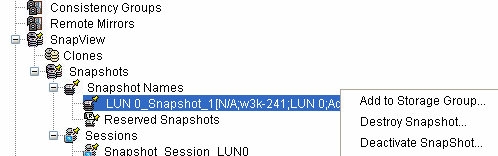
The Reserved LUN Pool is now allocated

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step15-Activate-Snapshot.png)

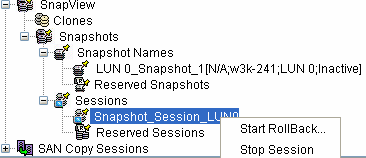
Activate the snapshot

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step16-Activate-Snapshot.png)

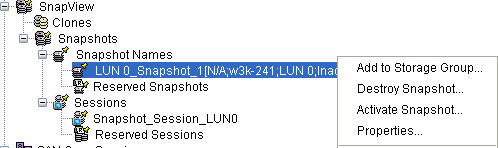
Select Yes to continue

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step17-Deactivate-Snapshot.png)

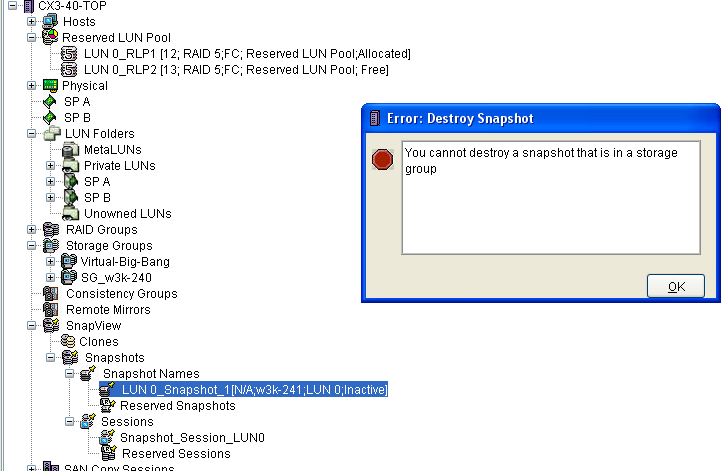
Deativacte the snapshot. Whatever changes have taken place can be rolled back or incorporated.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step18-Stop-Session.png)

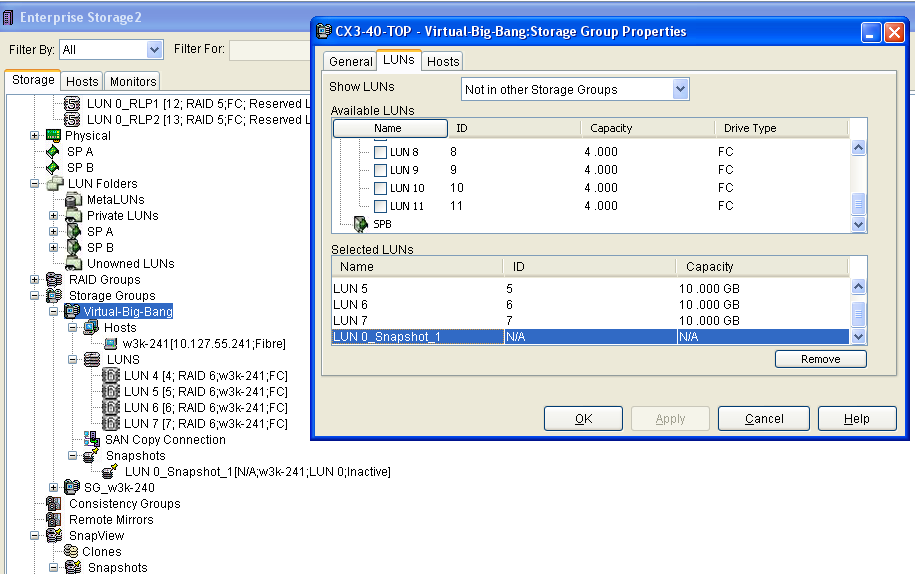
Stop the session

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step19-Destroy-Snapshot.png)

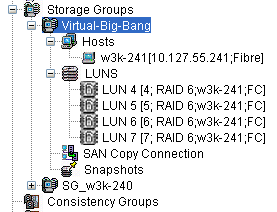
Destroy the Snapshot.

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step20-Destroy-Snapshot.png)

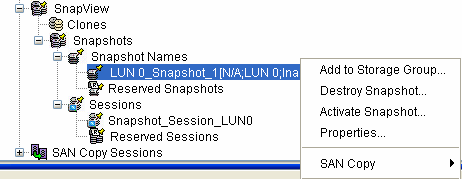
We need to remove the snapshot from its Storage Group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step22-remove-LUN-from-SG.png)

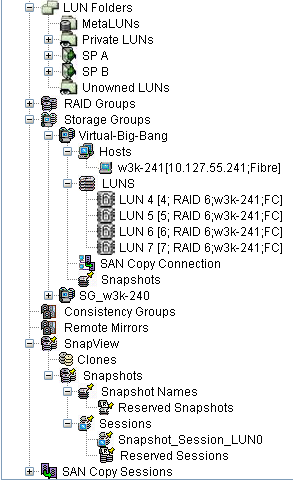
Remove the snapshot LUN from its storage group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step23-LUN-removed.png)

No more Snapshot LUNs exist in the Storage Group

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step-24-Destroy-Snapshot.png)

Destroy the Snapshot

[](http://virtual-big-bang.co.uk/wp-content/uploads/2012/12/Step25-Snapshot-Destroyed.png)

Snapshot fully removed