# **2.2 Working with Disks**

* Query current disks
  + List disks
    - Get-Disk
    - Get-PhysicalDisk
    - Get-VirtualDisk
  + List volumes
    - Get-Volume
    - Get-Volume | Sort-Object DriveLetter
  + To exclude removable media
    - Get-Partition
* Bringing a new disk online
  + Ensure the disk is detected by the OS. The current status should be "offline." Record the drive number Get-Disk
  + Initialize the disk  
    Initialize-Disk –Number <#>
  + Create a partition on the disk  
    New-Partition -DiskNumber <#> -AssignDriveLetter -UseMaximumSize  
    New-Partition -DiskNumber <#> -AssignDriveLetter -Size 64GB
  + Format the volume  
    Format-Volume –DriveLetter <A-Z> –FileSystem NTFS
  + Assign a name to the volume  
    Set-Volume –DriveLetter <A-Z> –NewFileSystemLabel "VolumeName"
* Deleting a partition
  + Remove-Partition –DriveLetter <A-Z>
* Performing Disk Maintenance
  + Defragmenting a drive
    - Optimize-Volume –DriveLetter <A-Z>
  + Disk error checking and correction
    - Repair-Volume –DriveLetter <A-Z>
* Shrinking/Growing a volume
  + Use Get-Disk and Get-Volume to determine the drive and volume numbers
  + Perform the operation  
    Resize-Partition -DiskNumber <#> -PartitionNumber <#> -Size <NewSize>
  + Verify the change using Get-Volume