**Assignment 3: Disk Management and File Systems and File Security.**

Additional drives and create different RAID configurations, investigate different folder options (encryption and compression), security groups and design and implement an NTFS folder structure with assigned ACLs.

**Required Resources**

* Windows 10 workstation created in Assignment 1.

**Additional Information**

Professional Documentation - All documentation must be done in a **professional style**. It must include:

* Title page
* Updateable Table of Contents
* Document introduction
* Section introductions
* Document summary
* ALL sources and graphics used MUST be properly cited (APA) or credited.

\*\* All scripts must be converted to text before embedding them in your documentation. \*\*

*NB: Citations – Remember that citations MUST be provided for any code, script, test or image copied from another source or used as a resource. Not attributing appropriately (Plagiarism) or using illegal or unlicensed copies (copy write breach) are serious academic offenses. If you have any doubt as to when or how to cite, consult with your instructor and the resources provided by the college.*

<http://www.nscc.ca/docs/about-nscc/policies-procedures/policy-studentcodeofconduct.pdf>

**Evaluation:**

This assignment is worth a total of **70 Marks** as per the Rubric on Brightspace (marks will be deducted for deviating from Requirements). You may be asked to demonstrate some of your assignment to show your comprehension of the material.

**Marking and Assignment Notes:**

* **In Class** **marking** **(Task 1, 2 & 3)** MUST be completed on the due date assigned during the scheduled class.
* **Documentation (Task 4)** must be submitted to Brightspace by 5pm on the due date assigned in Brightspace
* **Automatic mark of 0 - Assignment not submitted or work not original.**
* **Rubric** can be found on Brightspace at the bottom right of the assignment page under ‘Assessment’ or via Assessments 🡪 Rubrics

**Task 1 (In-Class Marking) - Drive creation and File Management**

You will add new virtual disks for your virtual Windows system. Each disk is to be 100 Mb in size. \*\*NOTE: If you are using a MAC to complete this assignment you may experience some issues with this particular task. I recommend you complete Task 1 on an NSCC workstation.

* Start VMWare but **do not start your virtual machine**.
* Edit your virtual machine settings.
* Add **6 new Hard Disks** to your settings, each hard disk should be **100mb (0.1gb) SCSI disk** Hint: disk will actually show as 102mb. The Virtual Machine will see this as new hardware and you will use them in the exercise.
* Add the Disk Management snap-in for “This computer” to your custom console 1.msc (created in Assignment 2). Hint: remember your console mode has been set.
* Use Disk Management snap-in to create the following drive configurations:
* A **Spanned** Volume using2 of the new disks
  + Assign Drive **N**
  + Format for FAT32
  + Volume label: “Spanned”
* A **Striped** Volume using 2 of the new disks
  + Assign Drive **S**
  + Format for NTFS
  + Volume label: “Striped Drive”
  + Enable Disk Quotas:
    - quota limit = 75Mb for all users
    - warning level = 50Mb for all users
* A **Mirrored** volume using the last 2 disks
  + Assign Drive **M**
  + Format for NTFS
  + Volume label: “Mirrored Drive”
* A **Simple** Volume using your 5g disk
  + Assign Drive **E**
  + Format for NTFS
  + Volume Label: “Company Data”
* A **Simple** Volume using your 10g disk
  + Assign Drive **F**
  + Format for NTFS
  + Volume Label: “Data”
* Restart your Windows client to complete configuration of your new formatted drives.

Use the new drive spaces from above to create each of the following:

* An NTFS Folder Object called “FolderN” on your **N** drive.
* An NTFS File Object called “FileN” (inside your FolderN) on your **N** drive.
* Create an **NTFS Compressed** (**do not zip**) folder called “FolderC” on the NTFS Striped Volume.
* Create a **NTFS Compressed** (**do not zip**) text file object called “FileC”. Use a copy of the assignment file as the sample.
* Create an **Encrypted** folder called “FolderE” on the NTFS Striped Volume
* Create an encrypted text file called “FileE”. Allow your user access to the encrypted file. *eg. Who has access to this file = MDutka*
* You have now created an Encryption Key Certificate. Find the new certificate for your “Current User” in your Custom Console1
* Edit the certificate properties to:
  1. Friendly Name = Encrypted FolderE
  2. Description = Assignment 3
* **Backup your encryption key** called “BackupKey” to the root of your S drive. Use the password “Student” and accept all default for your key creation.
* **Document** the following information in your **Change Management Log**:
  1. Friendly Name:
  2. Description:
  3. Issued to:
  4. Issued by:
  5. Valid from:

**Task 2 (In-Class Marking) – Adding Security Groups**

Requirements: While we will be studying Users and Groups in detail shortly, for now we have to set up three Local Security Groups to use in this exercise.

On your virtual machine:

* Access Local Users and Groups from your custom console1
* Select Groups
* Create 3 New Group:
  + Group Name = Sales
    - Add a description = Sales\_Group
  + Group Name = Marketing
    - Add a description = Marketing\_Group
  + Group Name = Management
    - Add a description = Management\_Group

\*\*NOTE: You will lose marks for incorrect naming. Please read carefully!

**Task 3 (In-Class Marking) – Design and implement an NTFS Folder Structure**

Requirements: We will be designing a basic file structure for the Company Inc. Organization.

* Navigate to the root folder of your **E** drive.
* Create a folder (in the **root** of the volume) named CompanyInc
* Create these subfolders inside CompanyInc and assign the correct NTFS permissions to the correct group:
  + Management
    - Set security to:
      * Management: Everything **but** Full Control
      * Sales: Read Only
      * Marketing: Read & Execute
  + Marketing
    - Set security to:
      * Management: Read & Write
      * Sales: Read & Write
      * Marketing: Everything **but** Full Control
* Inside Marketing, create this Marketing **subfolder**, and set security as:

**Ad Campaign** subfolder

* + - Security:
      * Management – Read & Write
      * Sales – Read only (\*Remember Inheritance)
      * Marketing – Everything but Full Control
      * Inside Ad Campaign - createa **Collateral** subfolder and set security as:

**Collateral** subfolder

Security:

* Each group inherits security from Parent Folder.
  + Sales
    - Set security to:
      * Management: Read & Write
      * Sales: Everything **but** Full Control
      * Marketing: Read & Write
* Inside Sales, create a **Quarterly** subfolder, and set security as:

**Quarterly** subfolder

* + - Security:
      * Management – Read & Write
      * Sales – Everything but Full Control
      * Marketing – Read & Write

**Task 4 (submit on Brightspace)– Change Management Log**

* Update your Change Management Log, then submit PDF of Change Management Log Assignment 3 to Brightspace.
  + Log should contain information about:
    - New drives and configurations info
    - New folders and files and special properties
    - New groups
    - New Company Inc. folder structure and group permission assignments.