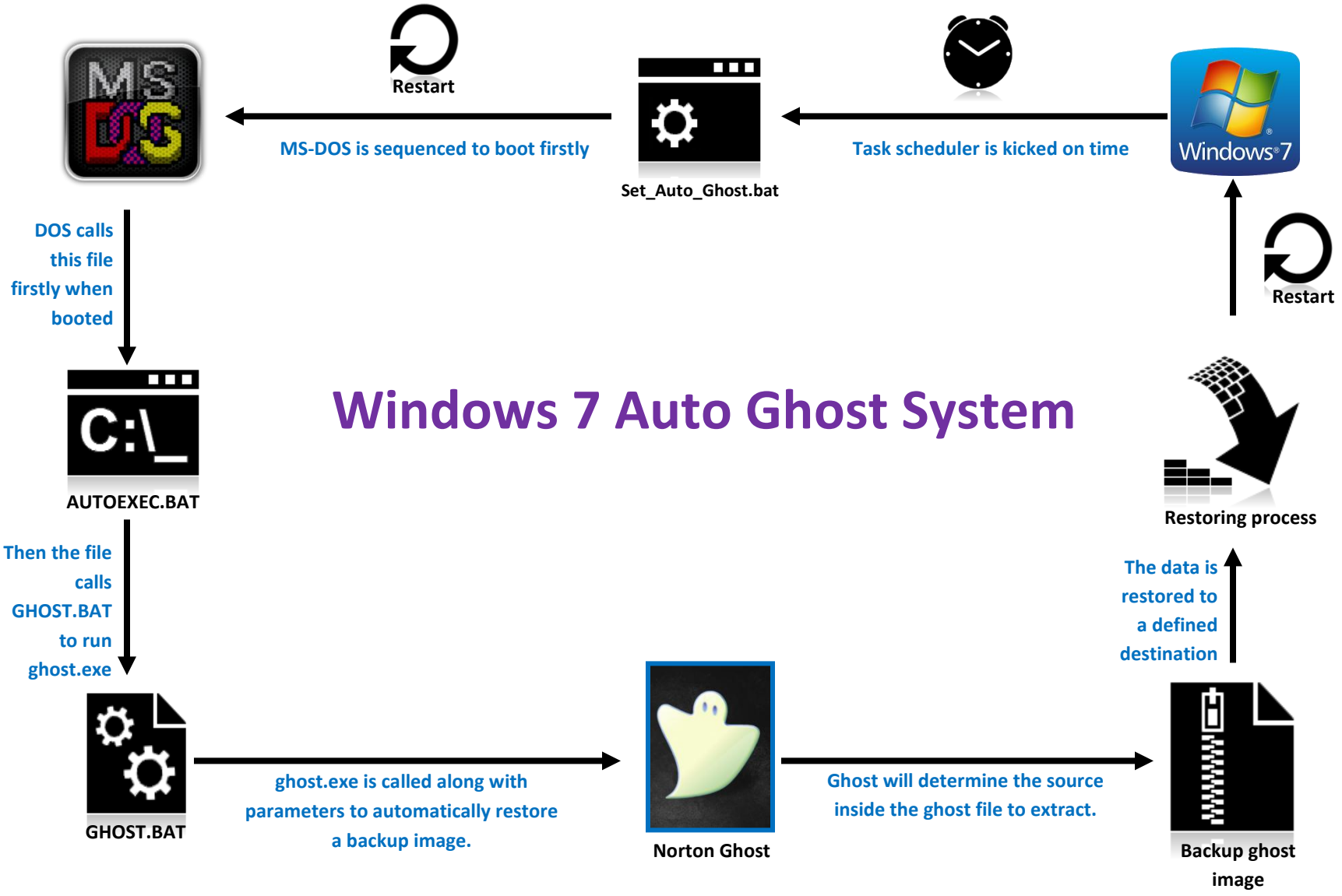
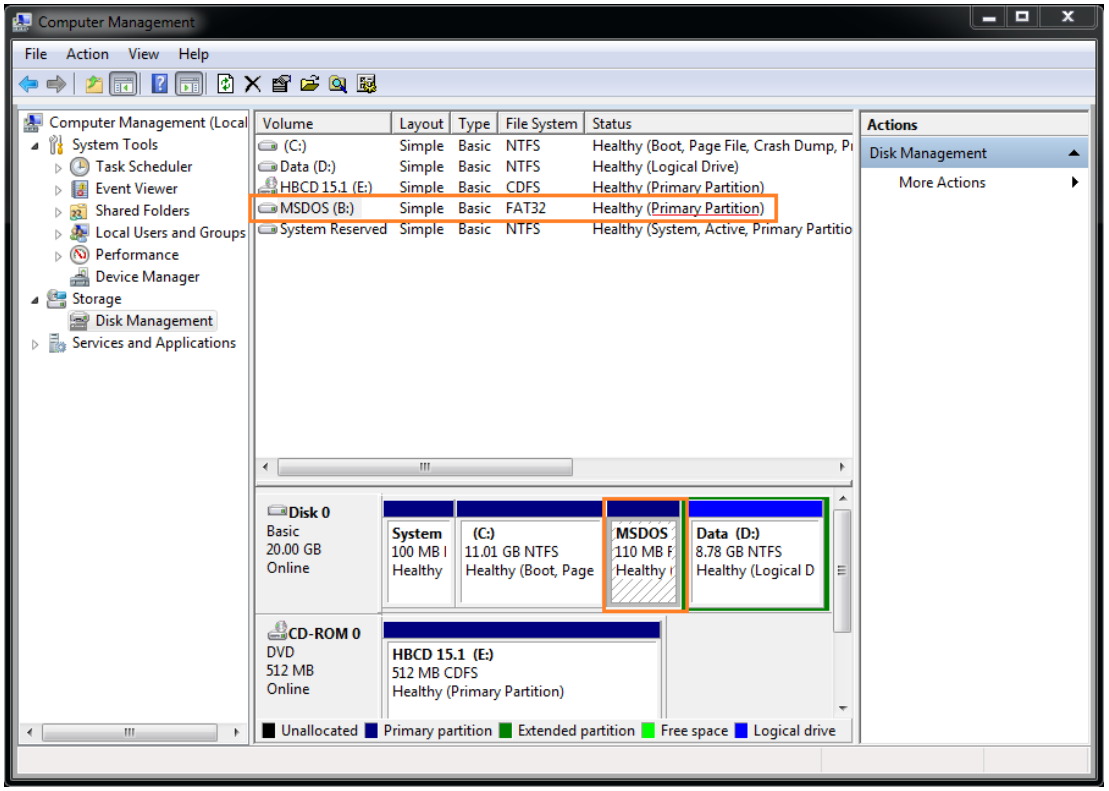

Windows 7 Auto Ghost System
Restart
MS-DOS is sequenced to boot firstly
Set_Auto_Ghost.bat
Task scheduler is kicked on time
Windows 7
Restart
DOS calls this file firstly when booted
AUTOEXEC.BAT
Then the file calls GHOST.BAT to run ghost.exe
GHOST.BAT
ghost.exe is called along with parameters to automatically restore a backup image.
Norton Ghost
Ghost will determine the source inside the ghost file to extract.
Backup ghost image
The data is restored to a defined destination
Restoring process

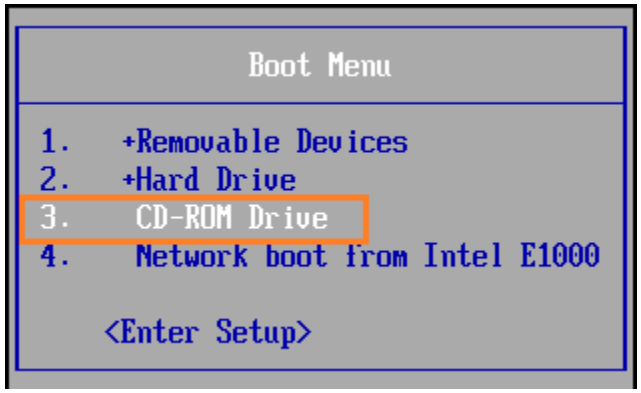
Details walkthrough of the process.

I. Prepare MS-DOS partition and install MS-DOS system files.

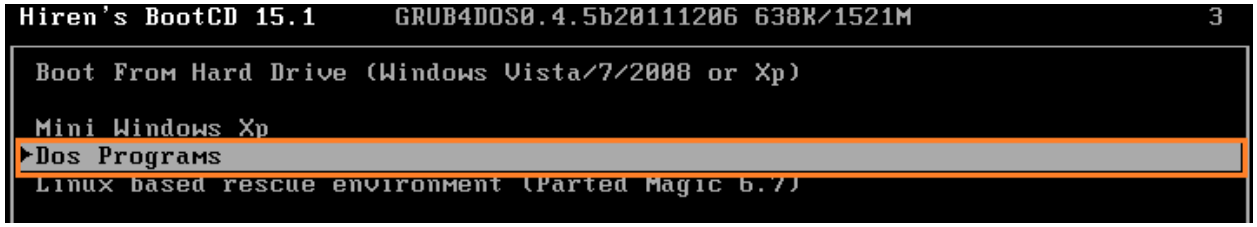
1. Open **Computer Management** window and do following things:
   - Create a 100MB partition with type = *Primary Partition*.
   - Format this partition **=** *FAT32*.
   - Name it =*MSDOS*.
   - Assign label =*B*.



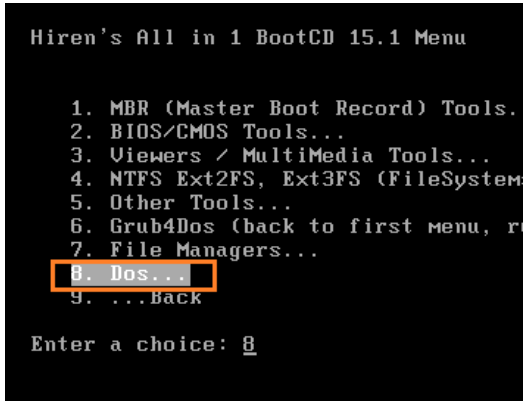
2. Input **Hiren's BootCD** into CD/DVD-ROM and reboot the computer. Upon the restart, try to boot into the CD/DVD-ROM Drive to run Hiren Boot CD.



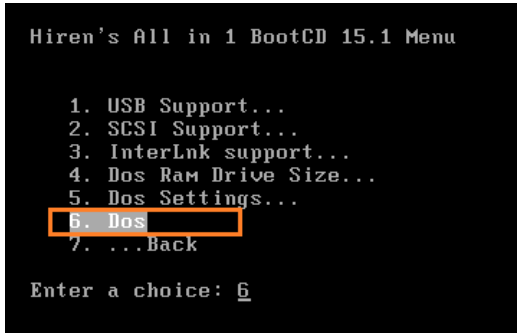
3. On the **Hiren's BootCD** menu, select **Dos Programs**.



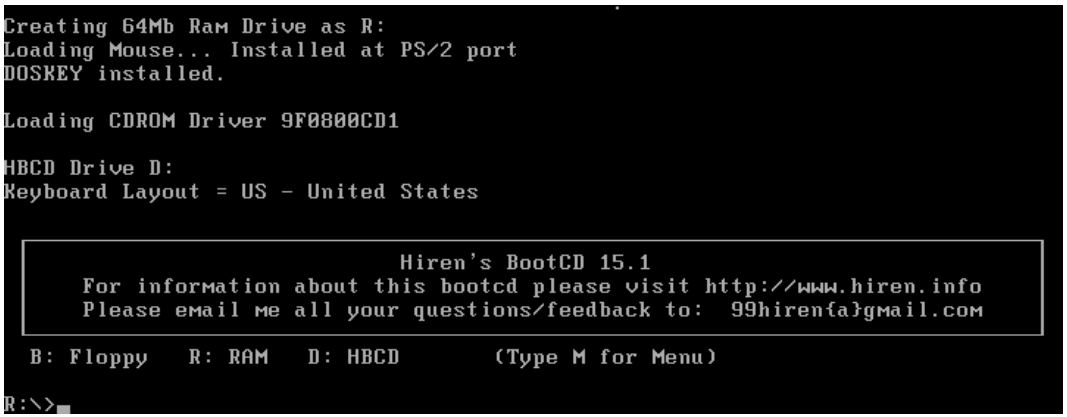
4. Then in the list menu, try to find and select "Dos…" option.



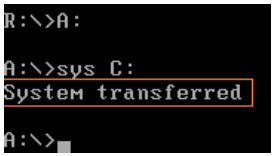
5. Again, select “Dos…” option one more time.



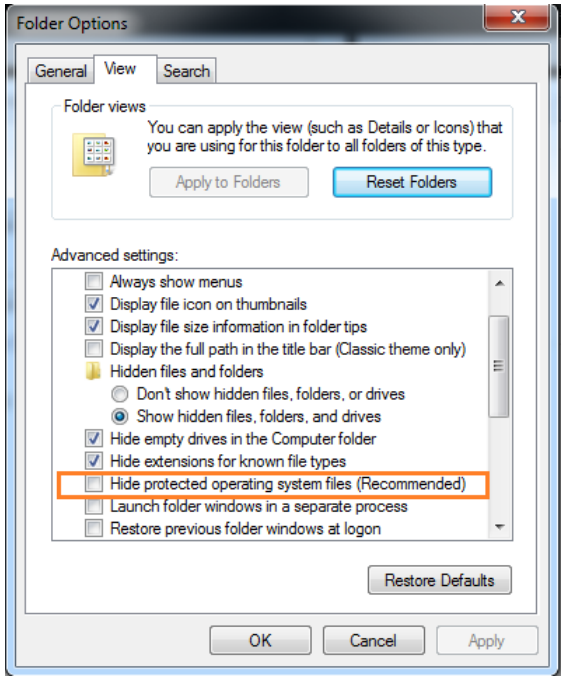
6. It will now take you into Dos setup screen like below



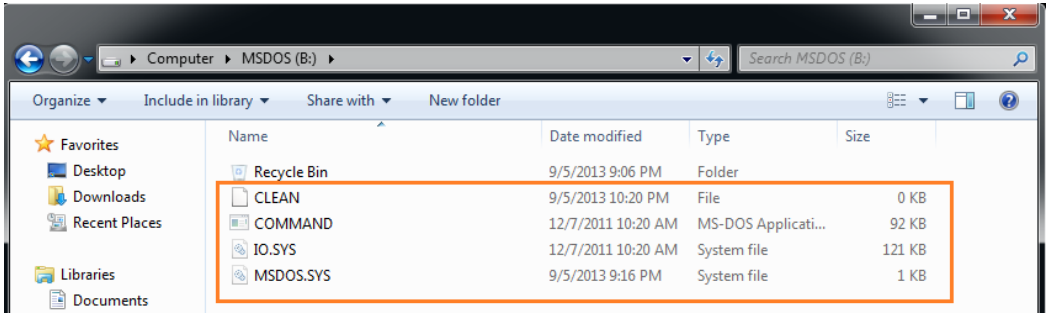
7. Type in following commands:
   - **A:** -> This command is to bring the terminal into MS-DOS setup disk.
   - **sys C:** -> This command is to transfer MS-DOS system files into the FAT32 partition we just created in step 1.
   - If you do it correctly, you will see a line where it states that you transferred the system files successfully like below



8. Reboot the computer into Windows 7. Open **Folder Options** dialog and uncheck the setting *Hide protected operating system files (Recommended)*

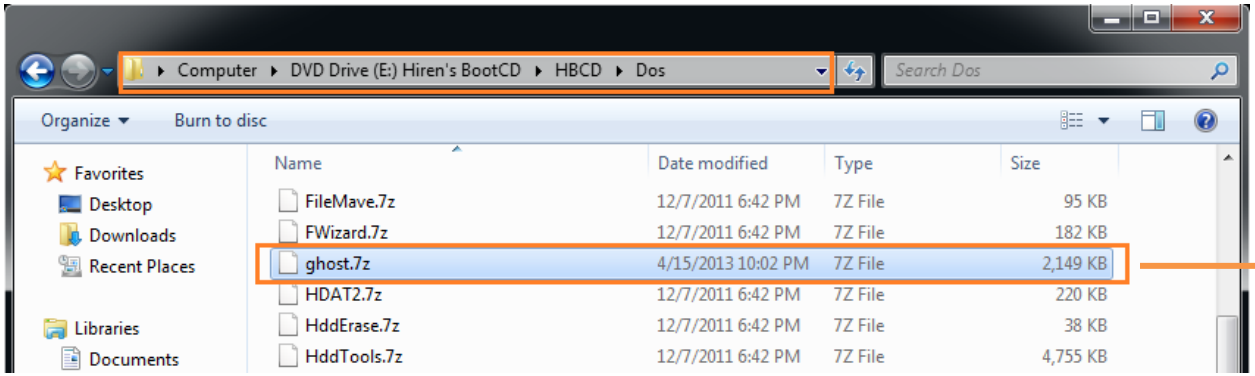


9. Open the ***B*** Drive and check whether there are 4 files presented like below. If yes, then you have installed MS-DOS correctly.

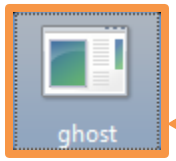


II. Extract *ghost.exe* (MS-DOS version) from Hiren BootCD and set up auto execution batch file to kick it run.

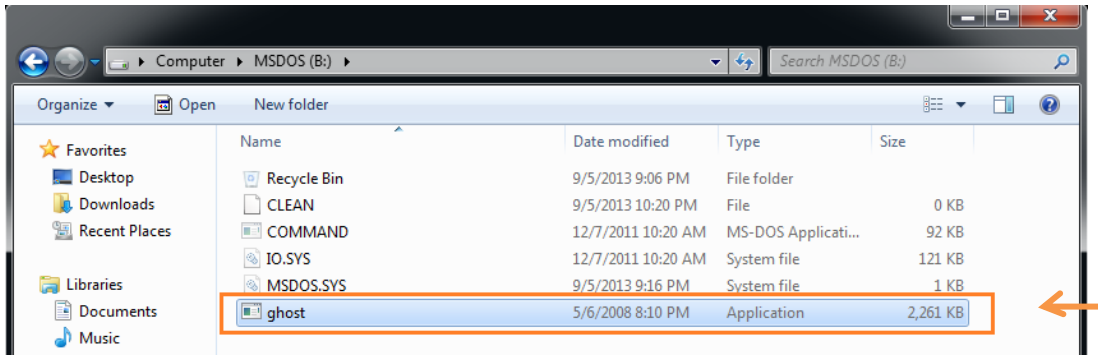
1. In Windows 7, navigate to the *ghost.7z* file under the path Hiren's BootCD\HBCD\Dos\.



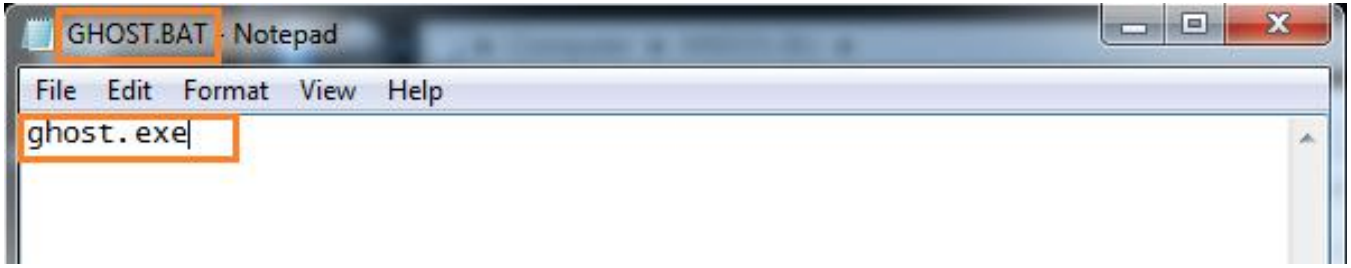
2. Using a 7z application such as **WinRAR** or **7-Zip** to extract the *ghost.exe* file inside the file *ghost.7z*.



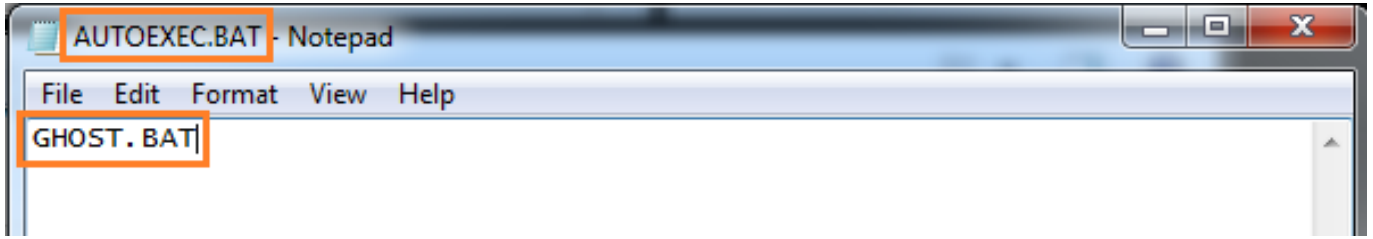
3. Copy this extracted *ghost.exe* file into the ***B*** Drive (MS-DOS partition).



4. Create a *GHOST.BAT* file in Drive ***B***. This file contains a command line where it will call the *ghost.exe* to run when kicked. For now, we just need it to call *ghost.exe* only. In later steps, we will add more parameters to let it auto run ghost program, restore a ghost file, and auto reboot when finishes.

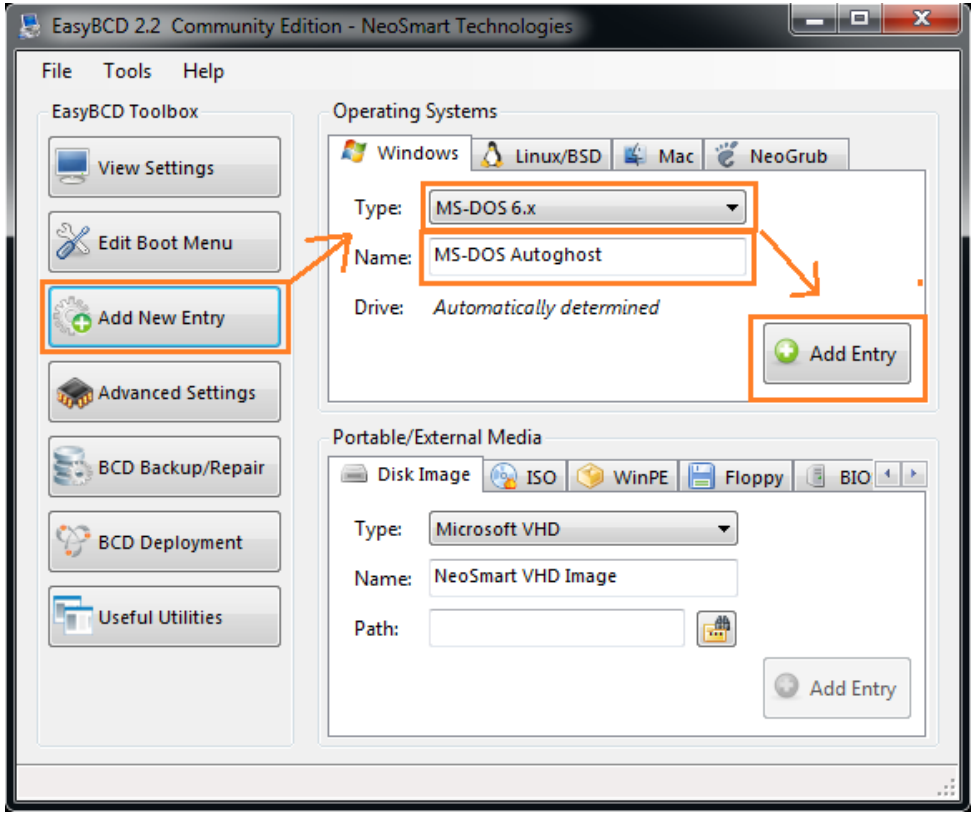


5. Create the *AUTOEXEC.BAT* file. This file is important because each time MS-DOS is booted, it will be run firstly. Therefore, we need to put the *GHOST.BAT* into this file as a command to kick it to run instantly when MS-DOS is booted.

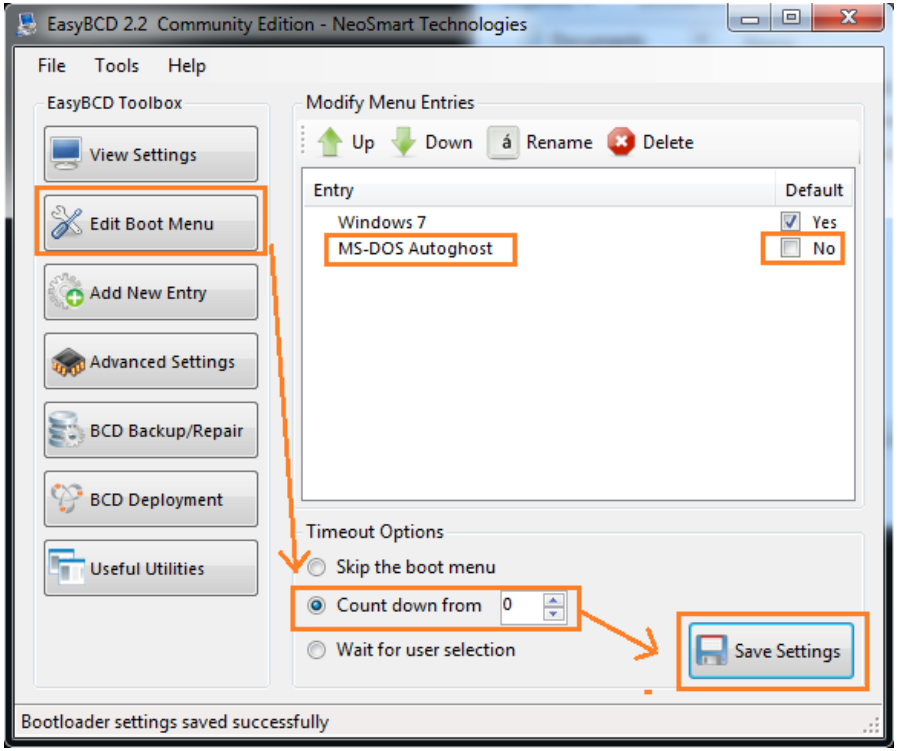


III. Create a boot sequence for MS-DOS using EasyBCD program and set up a Task Scheduler to kick this boot sequence.

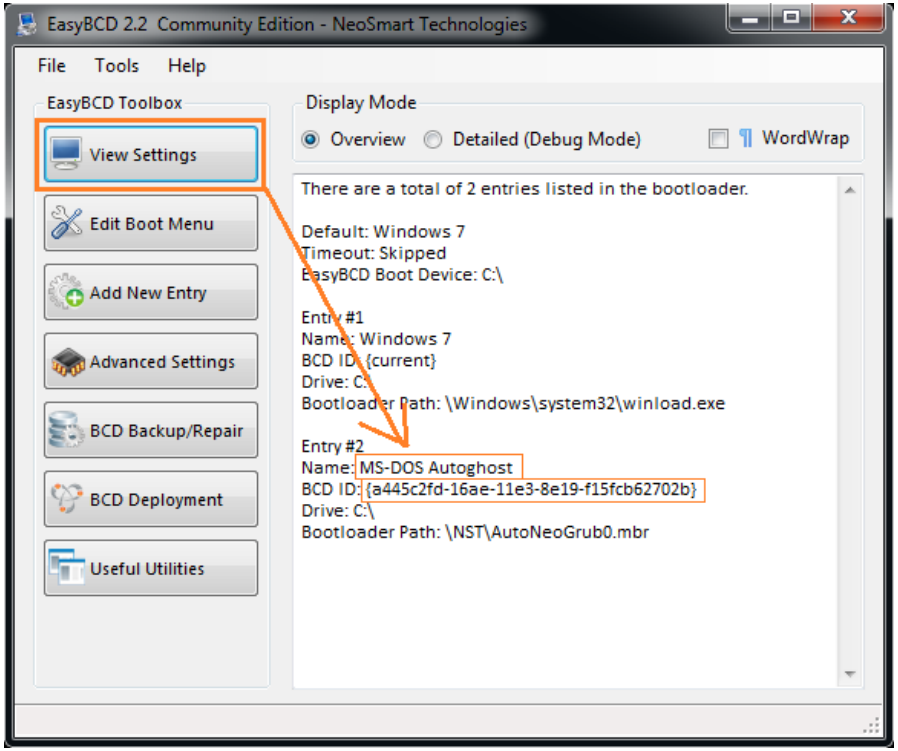
1. Download the free version of **EasyBCD** program from this link http://neosmart.net/EasyBCD/. You need to register an email to download it free.
2. After installing **EasyBCD**, start it and do the following things:
    a. Create a New Entry for MS-DOS bootsector. Like the screenshot below



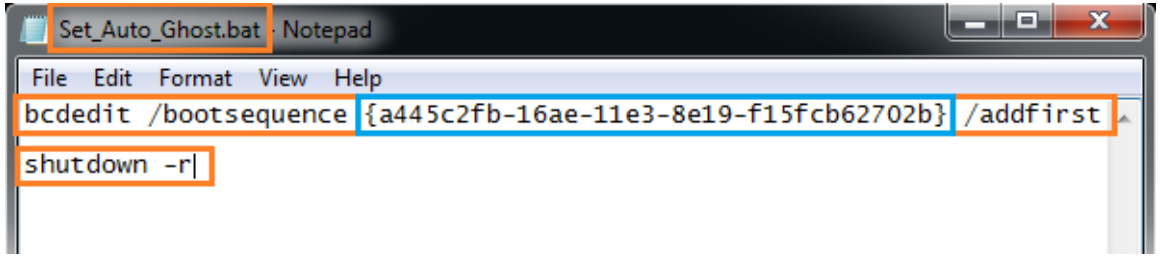
b. Edit the Boot Menu. Select the *Count down from* option. Set the value for it to 0. Click on *Save Settings* button. Make sure that the *Default* value of entry *MS-DOS Autoghost* is unchecked. This *MS-DOS Autoghost* entry should be placed bottomly.



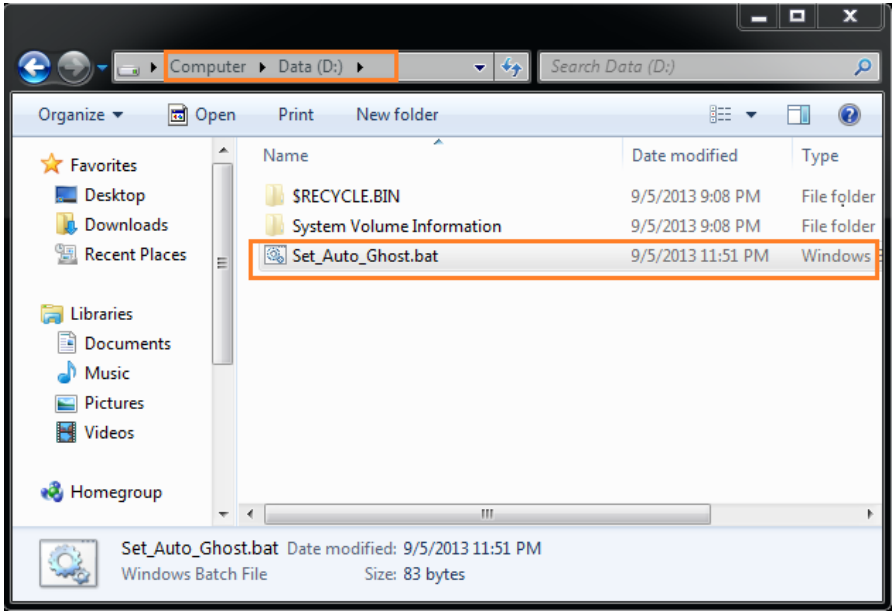
c. On **View Settings** tab, note down the *BCD ID* of entry *MS-DOS Autoghost*. We will need this ID for later task scheduling and sequence booting. Close **EasyBCD** window after finishing. Backup the file C:\NST\AutoNeoGrub0.mbr to somewhere safe. After that, you can keep or uninstall EasyBCD program.



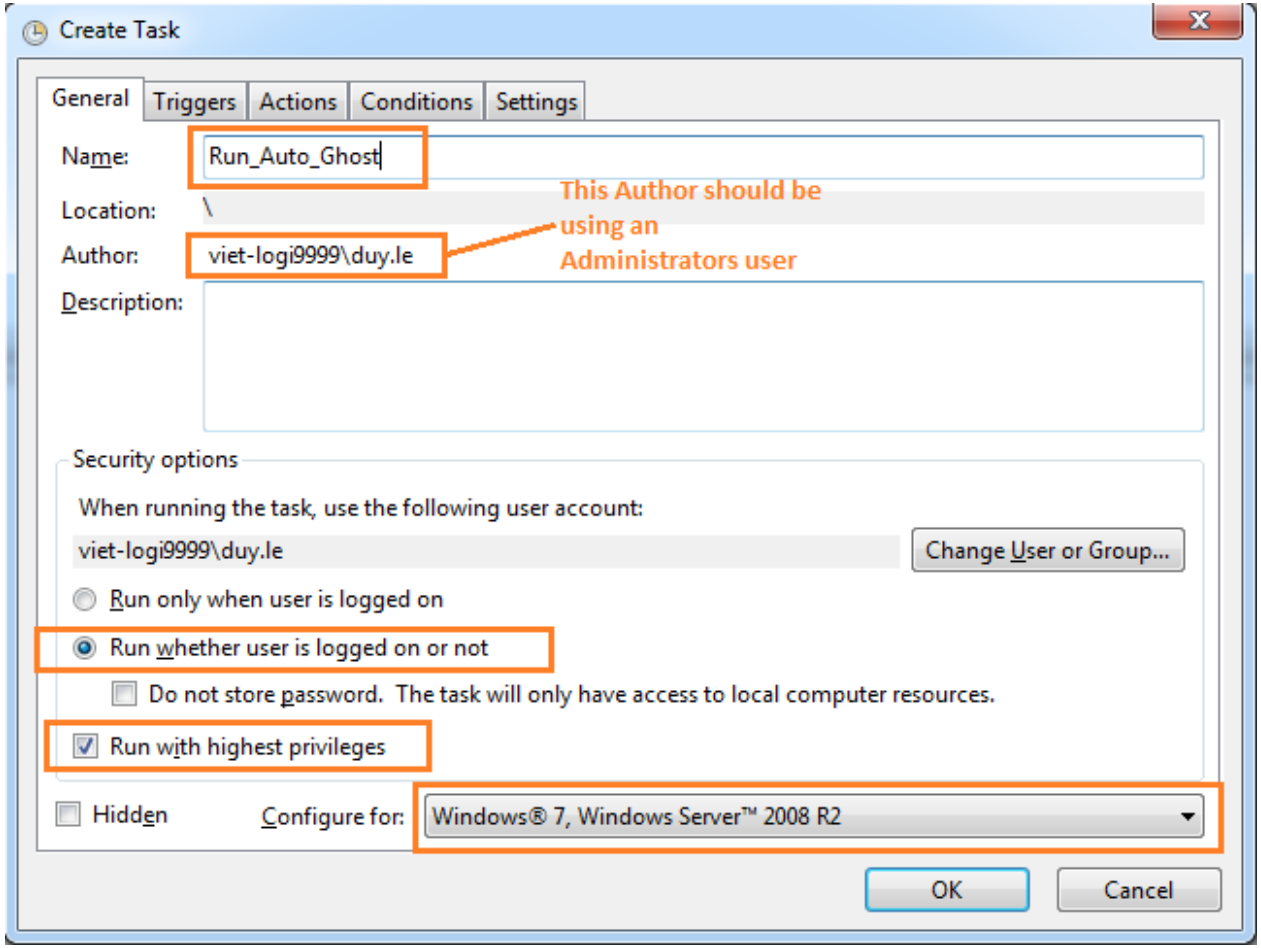
3. Create a bat file named *Set_Auto_Ghost.bat*. Put the noted *BCD ID* in step *III.2.c* in the blue position and the rest of the file's content should be exactly the same as shown in the below screenshot. This file will do the job of calling boot entry of *MS-DOS Autoghost* as the first boot sequence, and restart the machine to run it for once. The second restart (from Ghost) the machine will boot back to *Windows 7* entry.



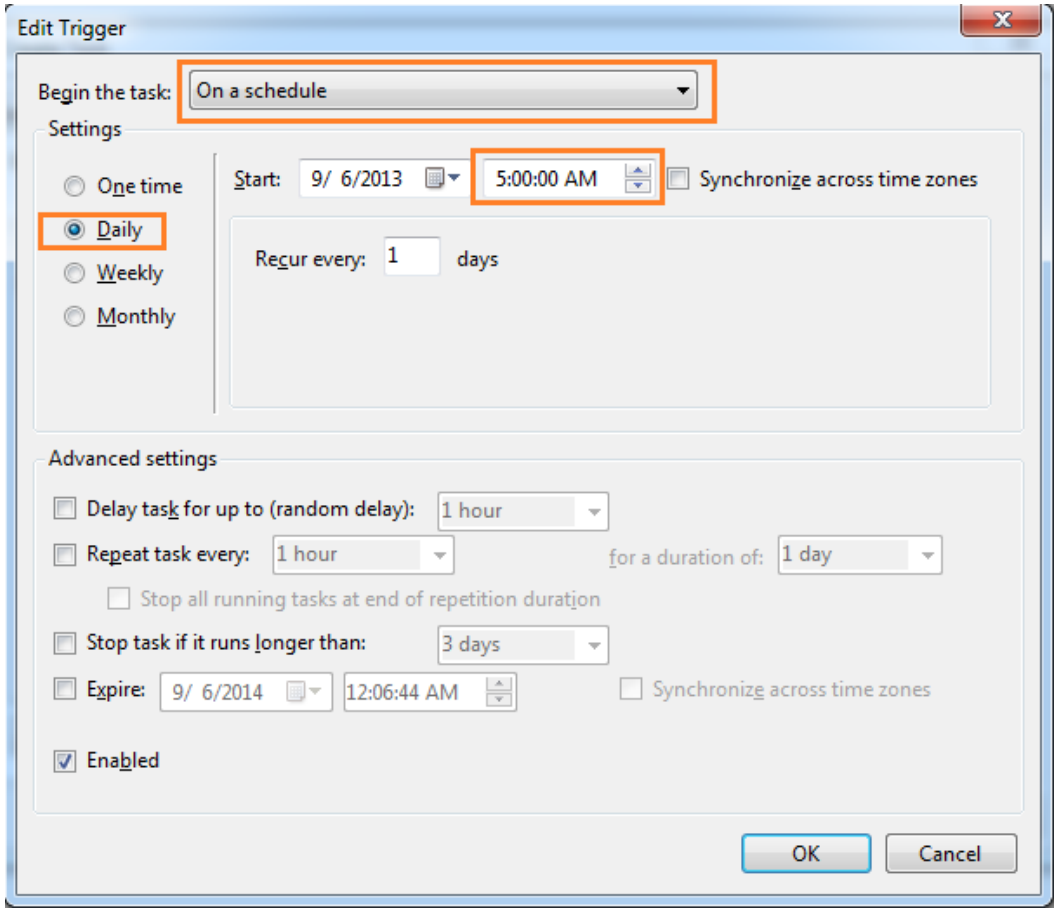
4. Place this *Set_Auto_Ghost.bat* file in a partition different from the ghosted partition. Usually, it will be copied to the backup drive where holds the ghost image files. E.g Drive "Data (D:)".



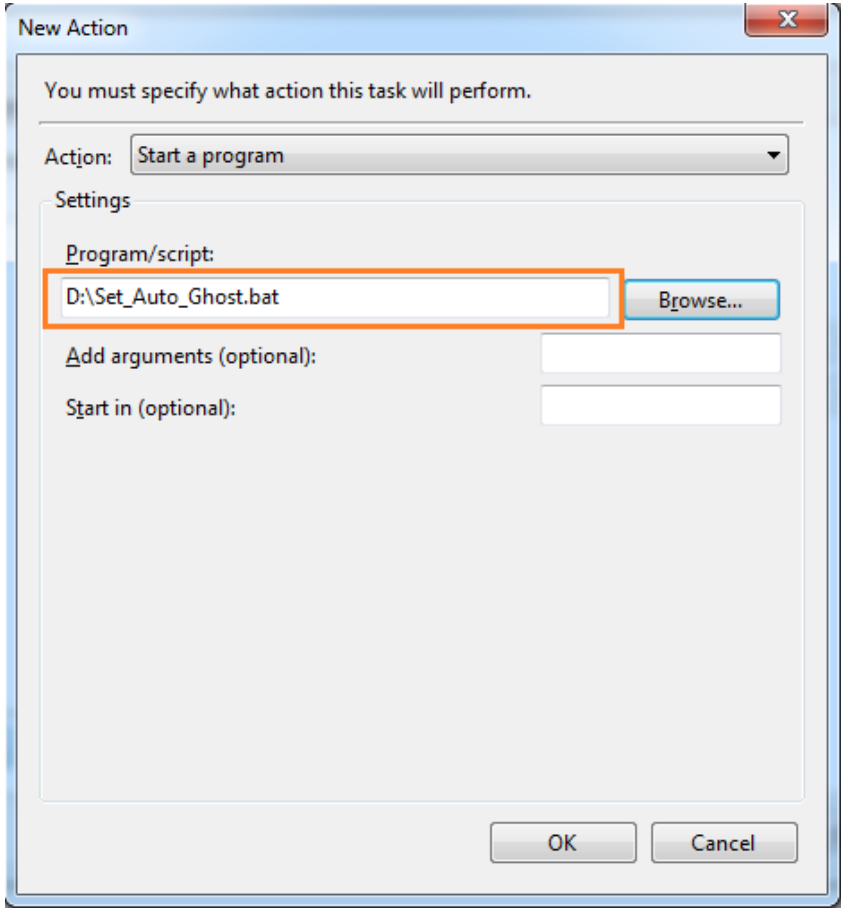
5. Open Task Scheduler and create a new task as shown below.



6. Edit the trigger of the task to let it kicks the *Set_Auto_Ghost.bat* the way you want.
   For example like below:

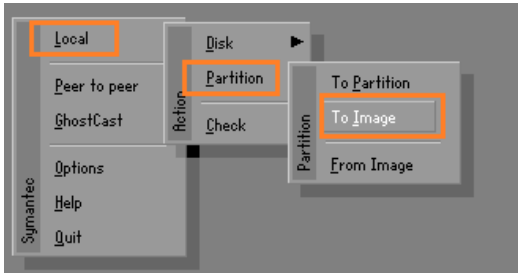


7. Edit the Action of the task to point to the *Set_Auto_Ghost.bat* file. After finishing all configurations, click OK and close Task Scheduler. We now have a scheduled task that on a preset time will kick the set_auto_ghost bat file which holds commands to call the entry of MS-DOS bootsector to run firstly on the first restart and when MS-DOS is booted, it will call the AUTOEXEC.BAT to run the GHOST.BAT to open ghost.exe program in MS-DOS environment.

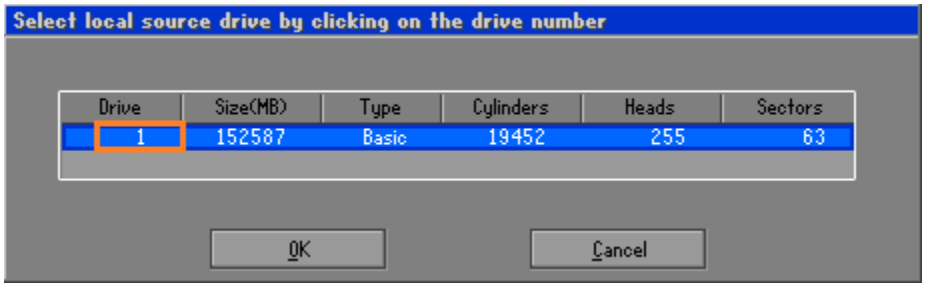


IV. Create a ghost image of the Operating System and edit the ***GHOST.BAT*** to auto ghost this image.

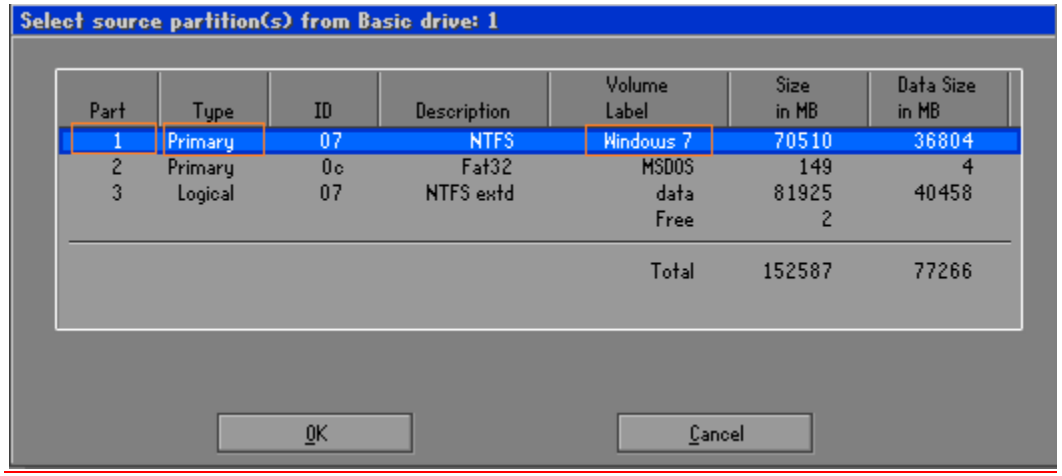
1. As at this state, we now can run the task we just created in step *III.7*. It now will auto set the boot sequence and restart the machine into the ghost program in MS-DOS environment.
2. In Ghost main menu, select *Local > Partition > To Image* as the below screenshot



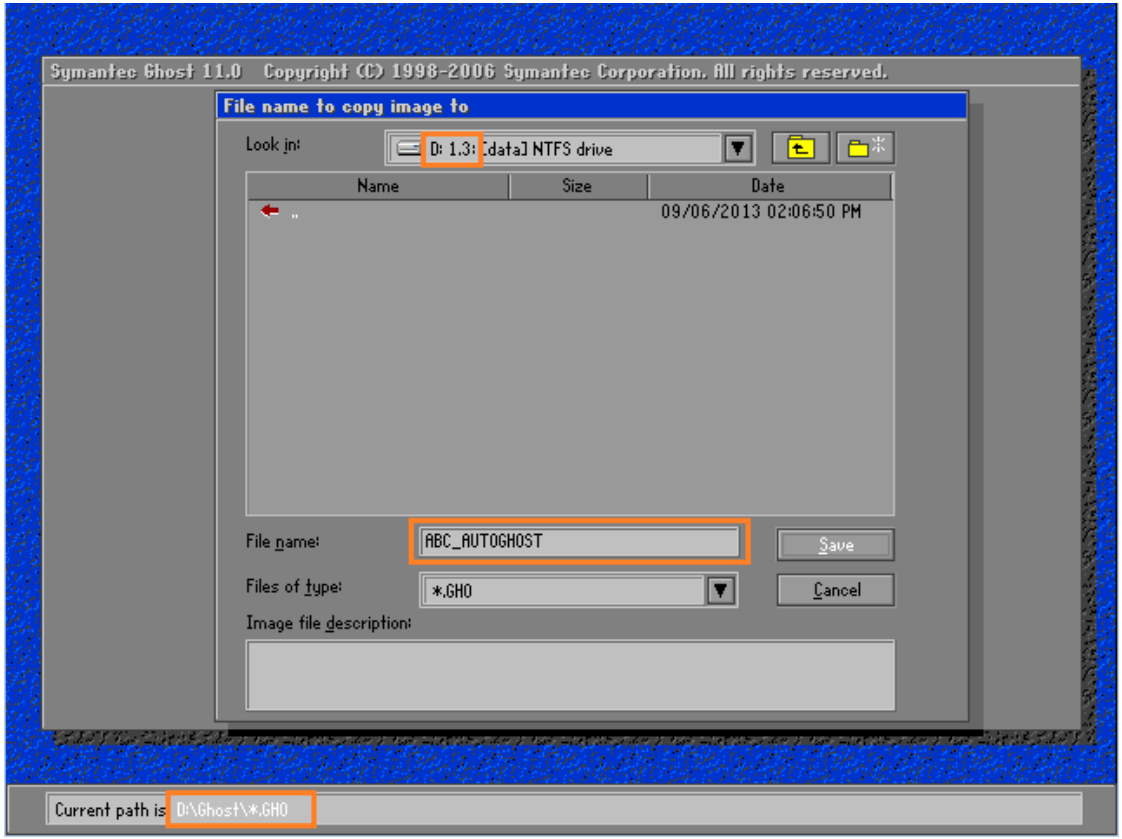
3. The "Select source drive…" dialog will display. Carefully select the Drive where the Operating System partition located. Also note down the Drive number because later on we need this number to specify in the parameters. For example: the below screenshot shows that the machine only has one drive. The Drive number is 1.

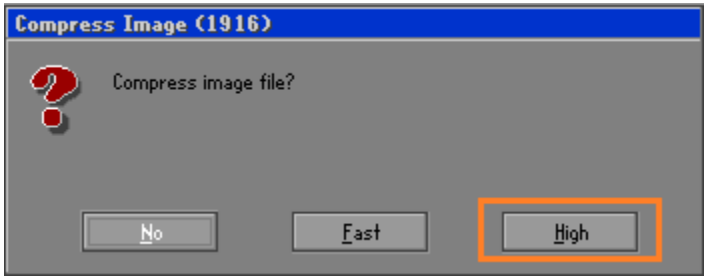


4. Next in the "Select partition…" dialog, carefully select only the partition where the Operating System resides. Try to avoid the MSDOS partition because sometimes we are confused when seeing 2 Primary partition. Note down the number of the OS partition. The partition number in the below case is 1



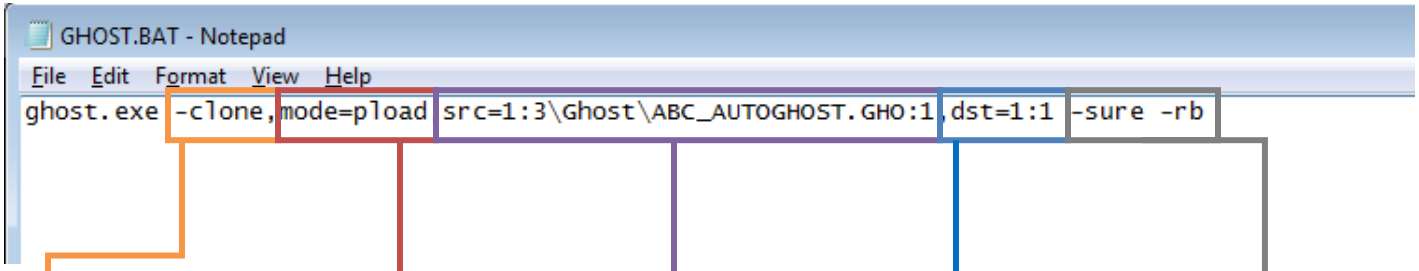
5. In the "File name to copy image to" dialog, do following things:
   a. Firstly select a partition where to save this ghost image to (as always should be a different partition from OS partition and configured as a Logical partition). In the below case drive:partition number of this partition is 1:3
   b. Input a file name for it. The name should not include blank spaces. In the below case, the name is ABC_AUTOGHOST
   c. Select a sub folder of the partition if you need to. Note down the location on the lower left corner of the screen. In the below case, the location of ghost image is D:\Ghost*.GHO
   d. Click on the **Save** button and select the "Compression image file?" at High level.





6. Wait for the backing up process completes and restart back into Windows 7.

7. Final step, we now edit the *GHOST.BAT* in Drive ***B*** to not only call *ghost.exe* file, but call it with all the necessary parameters to auto restore the ghost image to the partition that we want. Save the file after finishing editing and now we have a fully functional Auto Ghost System.



`-clone` is the parameter that forces ghost to do the backup/restore automatically.

`mode=pload` is the parameter to specify the restore mode. It means ghost will try to extract a ghost image into a specified location.

`src` is parameter to specify the location of the ghost image. Input the noted numbers of steps *IV.5.a*, *IV.5.b*, and *IV.5.c* to this. Except one thing is that we should replace the label of that partition with its drive:partition number.

The `:1` string at the end of this parameter is to specify the partition number inside our ghost image file. Usually if we have backed up only one partition of a drive, it is always 1. But if we have more than 1, we need to know which partition we are trying to restore, it can be 2 or 3.

Automatically reboots PC on completion of cloning a drive or partition."**-rb**"

Turns off prompt for final confirmation. (Danger!). Useful in batch mode."**-sure**"

`dst` is parameter to specify the destination partition we want our ghost image restored to. This is usually the Operating System partition. Input the noted numbers of steps *IV.3* and *IV.4* in here. Left number is of the drive and the right number is of the partition.

GOOD LUCK AND HAVE FUN