Bootable USB Flash Drive (Creating "Master Boot Record") For USB Drive

Note: If you have never used this "Flash Drive" before to boot a Neoware Thin Client you must do this document before the "Thin Client" will boot off the Flash Drive properly. If you have used this one before and are just trying to make it bootable again then you can go to the following link http://www.themooressite.com/tech/Thin%20Clients/neoware.html *and click on the document called "Bootable USB Flash Drive For Reimaging Neoware Thin Clients"*

Note: To do this you will need a USB Thumb Drive of at least 256MB in size, and it will need to be compatible with this operation. Also Note: Unfortunately there is no real way of telling which ones are compatible with this operation by looking at them or buy using one specific model. It is more or less a hit or miss (Either it will work when you do the steps below or it won't).You will just have to try a device until you find one that is compatible. I can tell you that I used a "Cruzer Micro 2.0GB" Thumb Drive for this test and it worked great.

Last Note: Make sure there is __NO INFORMATION__ on the "Flash Drive" that you selected as you will be wiping it out in the steps below.

1) Once you have a thumb drive that you want to use, you will need to download the "USB" zip file from my website which you can find at the following link http://www.themooressite.com/tech/Thin%20Clients/neoware.html Look under the Software Section.

2) You will then need to Unzip the files to the root of your C: drive.
3) Now you will need to follow the steps below. *Note: These steps can also be found in the "USB Image Update and Retrieval Tool.doc" that is located in the "USB" folder that you downloaded.*

4) **Variable Determination -- Note: Variables subject to change during the procedure. Please refer back to this section for re-determination when needed.**

   a. Open a Windows Explorer window and note the drive letter that the USB key is mapped to. Write it down here for reference
      i. USB Key Drive Mapping:_____
   b. From a command prompt:
      i. Change Directory to c:\USB
         1. Type '*cd C:\USB\dd_win32*'
      ii. Type '*dd --list*' and hit '*Enter*'

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1. The output returned will resemble 'Mounted on \\.\d:' where 'd:' is the drive letter of the storage device.
2. Search for the USB Key Drive Mapping (noted above.)
   a. In my case, I am looking for the line 'Mounted on d:\'
3. Once found, please take note of the Harddisk# variable referenced with the Drive Letter.
   a. In my case I have determined the variable to be 'Harddisk1'
   b. Write the variable down here for reference_____

5) **Creation**

a. **Continuing to work in the previously opened command prompt:**
   i. Change Directory to c:\USB\dd_win32
      1. Type 'cd C:\USB\dd_win32'

Warning – The next step will overwrite the MBR of the device. Any and all data will be lost. Make sure you have the correct Harddisk# from step 8 or you risk destroying the data of another hard drive!!! That would be bad.

   ii. Type 'dd.exe if=/dev/zero of=\\?\Device\$the_Harddisk_number_you_noted_from_step_8\Partition0 bs=1M --progress' and hit 'Enter'
      1. Taking the variable into consideration, in my case the exact command will be 'dd.exe if=/dev/zero of=\\?\Device\Harddisk1\Partition0 bs=1M --progress'

      2. When the command completes:
         a. You should get $some_number+0 records in; $some_number+0 records out.
         b. It will probable give you some sort of exit error.
         c. Ignore the error; the .dd has just encountered the end of the device.
   iii. Physically unplug the USB storage device... wait a few seconds... and then re-insert it. *(Yes this is necessary.)*
      1. Verify that your variables noted above have not changed.
   iv. Type 'dd.exe if=empty_dos_table.mbr of=\\?\Device\$the_Harddisk_number_you_noted_from_step_8\Partition0' and hit 'Enter'
      1. Taking the variable into consideration, in my case the exact command will be 'dd.exe if=empty_dos_table.mbr of=\\?\Device\Harddisk1\Partition0'
      2. You should get 1+0 records in; 1+0 records out.
   v. Physically unplug the USB storage device... wait a few seconds... and then re-insert it. *(Yes this is necessary.)*
      1. Verify that your variables noted above have not changed.
   vi. Minimize the command prompt. We will need it again later.

b. **Open a Windows Explorer window.**

      i. Double Click on the device and you should receive a message saying 'Please insert a disk into drive _____ '

      ii. Minimize the Windows Explorer Window. We will need it again later.

  c. Open up the Disk Management Console so that we can partition the device

      i. Go to Start → Run

      ii. Type 'diskmgmt.msc' and click 'OK'

      iii. You should see your removable device in the lower list with the entire device's disk space as "Unallocated".

      iv. Right-Click the non-partitioned space and select 'New Partition'

      v. Follow the Wizard

            1. Click 'Next'

            2. Click 'Next'

            3. Click 'Next'

            4. Click' Next'

            5. Set the file system to 'FAT32'

            6. Set a 'volume label' (if desired.)

            7. Click 'Next'

            8. Click 'Finish'

      vi. The device should now be formatted to FAT32 and accessible through Windows Explorer

      vii. Close the Disk Management Console.

            1. Go to File → Exit

  d. Maximize the command prompt that was minimized in step 3-a-vi

      i. Change Directory to c:\USB\syslinux-3.11

            1. Type 'cd C:\USB\syslinux-3.11' and hit' Enter'

      ii. Type 'syslinux.exe –ma $drive_letter_of_the_usb_storage_device' and hit 'Enter'

            1. Taking the variable into consideration, in my case the exact command will be 'syslinux.exe –ma d:'

                  a. You should now have 1 file on the device called 'ldlinux.sys.'

                  b. Verify this by typing 'dir/a' from the command line.

      iii. Close the command prompt. We are finished with it.

  e. Maximize the Windows Explorer window that was minimized in step 3-b-ii

      i. Copy all files from 'C:\USB\disk_files' to the newly created USB device

6) You should now have a Thumb Drive that is bootable for Re-Imaging, Copying Images, and Formatting Thin Clients. For instructions on how to use this Thumb Drive in conjunction with the above task please also download and see the following articles.

How To Copy Image To A Bootable Thumb Drive

How To Pull Image From Neoware Thin Clients Using A Thumb Drive

How To Re-Image Neoware Thin Clients Using A Thumb Drive

How To Troubleshoot Neoware Thin Client Issues