How to use the Window command line (DOS)

This document covers the basic in navigating and using the Microsoft Windows command line. On this page, you'll learn how to move around in the command line, find files, manipulate files, and other important commands. Keep in mind that there are over 100 different commands that have been used in MS-DOS and the Windows command line.

Get into the Windows command line

Open a Windows command line window by following the steps below. If you need additional information or alternative methods for all versions of Windows.

1. Click Start
2. In the Search or Run line type **cmd** and press enter.

Understanding the prompt

After following the above steps, the Windows command line should be shown (similar to the example below). Typically Windows starts you at your user directory. In the example below, the user is Mrhope, so our prompt is C:\Users\Windows>. This prompt tells us we are in the C: drive (the default drive letter of the hard drive) and currently in the Mrhope directory, which is a subdirectory of the Users directory.

Key tips

- MS-DOS and the Windows command line are not <u>case sensitive</u>.
- The files and directories shown in Windows are also found in the command line.
- When working with a file or directory with a space, surround it in quotes. For example, My Documents would be "My Documents."
- Filenames can have a <u>long file name</u> of 255 characters and a 3 character <u>file extension</u>.
- When a file or directory is deleted in the command line, it is not moved into the <u>Recycle Bin</u>.
- If you need help with any of command type /? after the command. For example, dir /? would give the options available for the dir command.

Listing the files

Let's learn your first command. Type **dir** at the prompt to list files in the current directory. You should get an output similar to the example image below. Without using any dir options this is how dir output appears. As can be seen, you are given lots of useful information including the creation date and time, directories (<DIR>), and the name of the directory or file. In the example below, there are 0 files listed and 14 directories as indicated by the status at the bottom of the output.
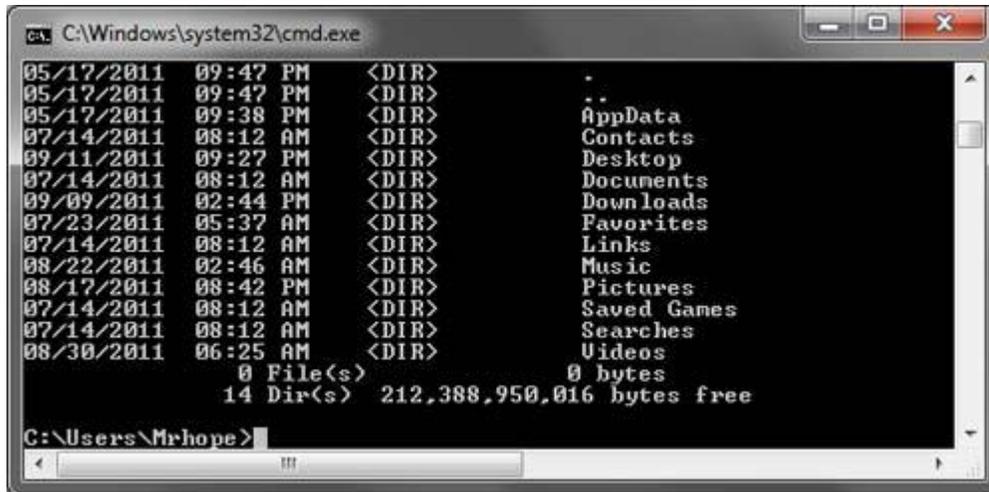
```
C:\Windows\system32\cmd.exe
05/17/2011  09:47 PM    <DIR>          .
05/17/2011  09:47 PM    <DIR>          ..
05/17/2011  09:38 PM    <DIR>          AppData
07/14/2011  08:12 AM    <DIR>          Contacts
09/11/2011  09:27 PM    <DIR>          Desktop
07/14/2011  08:12 AM    <DIR>          Documents
09/09/2011  02:44 PM    <DIR>          Downloads
07/23/2011  05:37 AM    <DIR>          Favorites
07/14/2011  08:12 AM    <DIR>          Links
08/22/2011  02:46 AM    <DIR>          Music
08/17/2011  08:42 PM    <DIR>          Pictures
07/14/2011  08:12 AM    <DIR>          Saved Games
07/14/2011  08:12 AM    <DIR>          Searches
08/30/2011  06:25 AM    <DIR>          Videos
               0 File(s)              0 bytes
              14 Dir(s)  212,388,950,016 bytes free

C:\Users\Mrhope>
```

Every command in the command line has options, which are additional switches and commands that can be added after the command. For example, with the dir command you can type **dir /p** to list the files and directories in the current directory one page at a time. This switch is useful to see all the files and directories in a directory that has dozens or hundreds of files.

The dir command can also be used to search for specific files and directories by using wildcards. For example, if you only wanted to list files or directories that begin with the letter "A" you could type **dir a*** to list only the AppData directory, in this above example.

Moving into a directory

Now that we've seen a list of directories (shown below) in the current directory move into one of those directories. To move into a directory, we use the cd command, so to move into the Desktop type **cd desktop** and press enter. Once you've moved into a new directory the prompt should change, so in our example, the prompt is now C:\Users\Mrhope\Desktop>. Now in this desktop directory, see what files are found in this directory by typing the dir command again.

```
C:\Windows\system32\cmd.exe
09/08/2011  11:12 PM                20,815 Forum post.txt
05/17/2011  09:29 PM                11,381 hijackthis.log
06/04/2011  10:03 AM    <DIR>              inc pics
09/02/2011  05:26 AM             3,215,858 Lestezio delloro.mp3
08/13/2011  12:29 AM             6,243,965 Lux Aeterna.mp3
08/26/2011  04:22 AM    <DIR>              minecraft
12/12/2010  12:30 PM               232,501 Minecraft.exe
02/04/2011  02:51 PM                   203 My Withings.url
08/13/2011  12:58 AM             4,857,594 Organ donor.mp3
08/05/2011  11:58 PM             3,510,489 stateofmind.mp3
08/13/2011  12:34 AM             4,368,164 Time.mp3
07/11/2011  05:50 PM               944,640 WinAudit.exe
07/11/2011  01:36 PM    <DIR>              world
07/08/2011  11:23 PM    <DIR>              _inc
              23 File(s)     86,754,747 bytes
               7 Dir(s)  212,093,128,704 bytes free

C:\Users\Mrhope\Desktop>
```

Understand the files

Now in the Desktop directory in this example (as shown above), we now have 23 files and 7 directories. As can be seen in the above example, there are many different file types. In Windows, you are familiar with files having icons that help represent the file type. In the command line, the same thing is accomplished by the file extensions. For example, "forum posts.txt" is a text file because it has a .txt file extension, Time.mp3 is an MP3 music file, and minecraft.exe is an executable file.

For most users, you'll only be concerned with executable files, which as mentioned above is a file that ends with .exe and are also files that end with .com and .bat. When the name of these files are typed into the command line, the program runs, which is the same as double-clicking a file in Windows. For example, if we wanted to run minecraft.exe typing "minecraft" at the prompt runs that program.

Note: Keep in mind that if the executable file you are trying to run is not in the current directory you'll get an error. Unless you have set a path for the directory that contains the executable file, which is how the command line finds external commands.

Moving back a directory

You learned earlier the cd command can move into a directory. This command also allows you to go back a directory by typing **cd..** at the prompt. When this command is typed you'll be moved out of the Desktop directory and back into the user directory. If you wanted to move back to the root directory typing **cd** takes you to the C:\> prompt. If you know the name of the directory you want to move into, you can also type cd\ and the directory name. For example, to move into C:\Windows> type **cd\windows** at the prompt.

Creating a directory

Now with your basic understanding of navigating the command line let's start creating new directories. To create a directory in the current directory use the md command. For example, create a directory called "test" by typing **md test** at the prompt. If created successfully you should be returned to the prompt with no error message. After the directory has been created, move into that directory with the cd command.

Switching drives

In some circumstances, you may want to copy or list files on another drive. To switch drives in the Windows command line, type the letter of the drive followed by a colon. For example, if your CD-ROM drive was the D drive you would type **d:** and press enter.

Creating a new file

You can create a new file from the command line using the edit command, copy con command, or using the start command to open a file.

copy con myfile.txt <press enter>

Upon executing the above command, the cursor moves down one line to a blank line, allowing you to create the new file line by line. Once you are ready to create the file, press Enter to get to a blank line, press and hold Ctrl, press Z, and then let go of both keys. This returns a ^Z. Once this has been entered, press Enter to save the file and exit it.

Moving and copying a file

Now that we've created a file let's move it into an alternate directory. To help make things easier, create another directory for the files. So, type **md dir2** to create a new directory in the test directory called dir2. After the new directory has been created, use the move command to move the example.bat file into that directory. To do this type **move example.bat dir2** at the prompt, if done successfully you should get a message indicated the file was moved. You could also substitute the move command for the copy command to copy the file instead of moving it.

Rename a file

After the file has been moved into the dir2 directory, move into that directory with the cd command to rename the file. In the dir2 directory use the rename command to rename the example file into an alternate name. Type **rename example.bat first.bat** at the prompt to rename the file to first.bat. Now when using the dir command you should see the first.bat as the only file.

Tip: When renaming any file make sure the file has the same file extension. If you were to rename the .bat file to a .txt file, it is no longer an executable file only a text file. Also, keep in mind that renaming the file to a different file extension does not convert the file. For example, if you were to name the file to a .MP3 file it may look like an MP3 audio file in Windows, but it is not going to play music.

Deleting a file

Now that we've had our fun with our new file, delete the file with the <u>del command</u>. Type **del first.bat** to delete the first.bat file. If successful, you are returned to the prompt with no errors and the dir command shows no files in the current directory.

Renaming a directory

Go back one directory to get back into the test directory by using the **cd..** command mentioned earlier. Now rename our del2 directory to something else using the same rename command we used earlier. At the prompt, type **rename dir2 hope** to rename the directory to hope. After this command has been completed, type dir and you should now see one directory called hope.

Removing a directory

While still in the test directory, remove the hope directory by using the <u>rd command</u>. At the prompt, type **rd hope** to remove the hope directory.

Tip: If the directory you are trying to remove contains any files or directories, you'll receive an error. To prevent this error use the /s option. For example, if the hope directory still had the first.bat file you would need to type **rd /s hope** at the prompt.

Running a program

Any file that is an <u>executable file</u> can be run from the command line by typing the name of the file. For example, if you listed files using the dir command and see a file named "myfile.exe" typing "myfile" at the command line runs that program.

Closing or exiting the command line window

After you are done with the Windows command line, you can type **exit** to close the window.